

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 2009

HEARINGS BEFORE A SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES ONE HUNDRED TENTH CONGRESS SECOND SESSION

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

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NOTE: Under Committee Rules, Mr. Obey, as Chairman of the Full Committee, and Mr. Lewis, as Ranking Minority Member of the Full Committee, are authorized to sit as Members of all Subcommittees.

DIXON BUTLER, TERRY TYBOROWSKI, TAUNJA BERQUAM,
ROBERT SHERMAN, and LORI MAES, *Staff Assistants*

PART 8

DEPARTMENT OF ENERGY

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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 2009

WEDNESDAY, APRIL 2, 2008.

WEAPONS ACTIVITIES AND NAVAL REACTORS

WITNESSES

**THOMAS P. D'AGOSTINO, ADMINISTRATOR
BRIGADIER GENERAL (RETIRED) ROBERT L. SMOLEN, DEPUTY AD-
MINISTRATOR FOR DEFENSE PROGRAMS
ADMIRAL KIRKLAND H. DONALD, DEPUTY ADMINISTRATOR FOR
NAVAL REACTORS**

CHAIRMAN VISCLOSKY'S OPENING STATEMENT

Mr. VISCLOSKY. I would like to call the hearing into session. The subcommittee will come to order.

The Subcommittee on Energy and Water Development meets today to hear testimony on the Department of Energy's fiscal year 2009 budget request for programs in the National Nuclear Security Administration.

I want to welcome Administrator Thomas D'Agostino. And, Mr. Administrator, and I guess, Mr. Secretary, I want to congratulate you sincerely on your appointment. I am very happy for you, and I think it was a very wise choice.

Mr. D'AGOSTINO. Thank you very much, Mr. Chairman. I appreciate it.

Mr. VISCLOSKY [continuing]. On his confirmation as Administrator of the National Nuclear Security Administration.

The Administrator is also accompanied by General Robert L. Smolen, who is Deputy Administrator for Defense Programs.

And I also want to welcome you, General.

As well as Admiral Kirkland H. Donald, Deputy Administrator for Naval Reactors.

And, Admiral, always good to see you.

The national security missions of the NNSA are vital to the interests of the United States, not only the nuclear weapons program and the nuclear Navy but also the nuclear nonproliferation mission we will hear about tomorrow.

While the issues we are discussing today are profound, they also involve considerable sums of money. Our responsibility is to ensure that the dollars provided by the American taxpayer for the weapons complex are spent pursuant to a coherent strategy and as wisely as possible.

Last year the committee found the case for the Reliable Replacement Warhead unconvincing and provided no funds for RRW. We

said we would consider this issue only after having in hand an overarching strategy, the number and nature of weapons needed to implement that strategy, and a satisfactory plan for reducing the size and cost of a nuclear complex in a reasonable time frame.

First, the strategy; second, from the strategy, we derive the stockpile numbers and types of weapons; and third, from the numbers and types, we derive the complex. We need to be looking at all three at once, of course, but I do believe the decisions flow in that order. We can't say, "Build a new complex, and then we will figure out precisely what we want to use it for." Neither can we say, "We need a new weapon, and we will develop a strategy at some undetermined date in the future."

Two days ago I received a report from the administration titled, "National Security and Nuclear Weapons in the 21st Century." It will be one of the subject areas we will examine today.

Mr. D'Agostino, General Smolen and Admiral Donald, your full written testimony will be entered into the record. After the hearing, we will have questions for you to answer for the record. And I ask that you have the responses and any supporting information requested by the subcommittee cleared by your office or the Department of Office of Management and Budget and delivered in final form to the subcommittee no later than 4 weeks from today.

I would also ask that if Members have additional questions they would like to submit for the record, that they please do so to the subcommittee by 5:00 p.m. this afternoon.

Normally at this point I would recognize Mr. Hobson for his opening statement. It is not, I would want to make clear, out of disrespect or disinterest in any fashion that he is unable to be here at the beginning of the hearing. He will be here shortly, and we will have his statement entered into the record.

Also, just in anticipation, we have a members-only briefing and meeting on the Defense Subcommittee. Since he and I share that responsibility as well, I think he will then depart, and again, not out of lack of interest or concern but necessity.

So we will get to the statements. But before that, probably the most important thing we will do today, and that is, I have to congratulate Mr. D'Agostino and Admiral Donald for the Naval Academy's stunning, well-deserved victory over Notre Dame last year in football in South Bend. And it has been a long time coming, and I would be remiss and not a gentleman if I did not, at the outset of this hearing, congratulate you on your fine, outstanding victory.

Mr. D'AGOSTINO. Yes, sir. Thank you.

Mr. SIMPSON. Is there a team that beat Notre Dame last year? I must not have been aware of that.

Mr. VISCLOSKY. They were the best team that beat Notre Dame last year.

And let us proceed to the statements, gentlemen.

Mr. D'AGOSTINO. Thank you, Mr. Chairman. I guess that was 45 years in the making, so it took us a little while. I appreciate your comments.

Mr. VISCLOSKY. It may take us another 45.

Mr. D'AGOSTINO. Thank you very much. And I appreciate the opportunity to discuss the President's fiscal year 2009 budget request for the National Nuclear Security Administration.

As you know, we have a number of fundamental national security responsibilities for the United States, and I am here to discuss the overall mission.

I am pleased to have with me Admiral Donald, the Deputy Administrator for Naval Reactors, and General Bob Smolen, our Deputy Administrator for Defense Programs.

NNSA is examining how to proceed into the future to address evolving national security needs in a manner that anticipates significant changes in how we manage our national security programs, our assets and our people. Our 2009 request will go a long ways toward making significant progress in many areas of focus, including those that we have embarked upon in fiscal year 2008 and in 2007.

We anticipate the overall request of \$9.1 billion to enable us to accomplish the following: First, we begin the process of reducing the size of the nuclear weapons complex and changing it from a Cold War nuclear weapons complex to a 21st-century integrated national security enterprise. This includes shrinking the size of the complex and consolidating special nuclear materials at fewer sites, increasing funding for cybersecurity by 22 percent over the amount provided in 2008, and improving cost savings associated with supply chain management, building upon the \$5 million of savings we have achieved in 2007. We anticipate the savings in 2008 to be significantly greater than that and will leverage that out into the future. And I can talk about that in some detail later on, sir.

Second, the program will further advance nuclear nonproliferation to counter nuclear and radiological terrorism. This will include continuing our planned increases and budget requests for non-proliferation activities, which build upon the doubling of the spending in these efforts since September 11, 2001, increasing funding to nuclear counterterrorism activities by 40 percent over the amount provided in 2008, increasing spending by 14 percent to secure highly enriched uranium and other radiological source materials as part of the Global Threat Reduction Initiative, and continuing and completing security activities under the Bratislava Agreement with the Government of Russia.

Third, this program will secure and maintain an aging stockpile, including continuing our Defense Program's "Getting the Job Done" initiative by staying focused on delivering products to DOD in a timely and cost-effective manner; increasing the number of weapon dismantlements by 26 percent over the weapons dismantled in fiscal year 2007 and continuing to build on successes we have had in the past there; addressing current and anticipated challenges associated with certifying the stockpile without underground testing; and, fourth, ensuring the safety and reliability of 103 operating naval nuclear propulsion plants and continue the Naval Reactors development work on nuclear propulsion technology to support required capabilities as well as meeting future threats for U.S. security.

And finally, expanding our technical excellence while developing the next generation of national security, scientific engineering and program management talent.

While we seek to shrink the overall size of the nuclear weapons complex significantly, we believe that this will provide us an oppor-

tunity for increased focus in a couple of different areas. One is nuclear nonproliferation; the second is nuclear counterterrorism; the third, nuclear forensics work; and the fourth, continued support to our Intelligence Community, which is largely outside of the Department of Energy but supports the Intelligence Community as a whole.

Before concluding and taking your questions, I want to briefly mention a few items that you may be interested in.

As you know, nuclear weapons remain a cornerstone of our Nation's strategic defense posture, even as we continue to downsize our stockpile. I am pleased to acknowledge last week, and I understand from your statement, that we submitted a classified white paper on the future of the nuclear weapons stockpile, and we are working to be able to take out the classified sections and release an unclassified version. I am confident that it is important to get as much information out in the public as possible.

While our nuclear deterrent remains safe, secure and reliable, the supporting infrastructure for that deterrent, even as it gets smaller, is very old. And with many of our critical facilities well over 50 years old, maintaining the current infrastructure is not an option. It is just falling apart. It is too old, it is too expensive, it is too big, and it does not address the Nation's security needs.

Addressing these issues I believe is possible, particularly now that we have our strategy out, to be able to be done to make that transition to a much smaller complex over the next 10 years without budget increases. That is the management challenge, and I think it is a challenge we can meet.

In addition, this is driven by the Department of Defense, and combatant commanders belief that the effort to study replacement concepts is important to the long-term assurance of the stockpile. We believe that this is a key ingredient toward reducing the size of the stockpile beyond the already 50 percent reductions we have accomplished since 2001 and the further 15 percent reductions ordered by the President last December in 2007.

And, finally, our ability to effectively dispose of plutonium materials coming out of our increased dismantlement programs and our work to consolidate materials is critical to the effort to reduce the worldwide nuclear danger. This is viewed by the administration as a critical national security program. Just as the Global Threat Reduction Initiative program seeks to repatriate and secure highly enriched uranium from around the world and ultimately convert that material into beneficial energy use, so, too, does plutonium disposition seek to eliminate excess plutonium and also provide the added benefit of energy production. I think the committee recognizes that.

We are working to comply with the direction given to us in the 2008 Consolidated Appropriations Act while preserving vital national security mission focus. To that end, I have ordered that the Pit Disassembly and Conversion Facility management be shifted to the Office of Defense Programs.

With respect to the MOX program, we have requested that it be funded through the Nuclear Energy account, consistent with the act. However, we cannot transfer the management of this program to the Office of Nuclear Energy. I am advised by the Department's

general counsel that the 2008 Consolidated Appropriations Act did not direct this transfer. Without statutory authority, we are prohibited from taking this action by the Department of Energy Organization Act and by the NNSA Act.

I want to assure the committee that I want to seek a solution to this and will commit my time to work with you to work on an appropriate path forward to work this out. This is the advice that I have received by my general counsel yesterday.

Thank you, Mr. Chairman. I look forward to working with you and members of the Subcommittee on this program. And I look forward to answering your questions, sir.

[The written statement of Thomas D'Agostino follows:]

**Statement of
Thomas P. D'Agostino, Administrator
Accompanied by
Gen. Robert L. Smolen, USAF (Ret.), Deputy Administrator for Defense Programs
&
Adm. Kirkland H. Donald, Deputy Administrator for Naval Reactors
National Nuclear Security Administration
U.S. Department of Energy
Before the
House Committee on Appropriations
Subcommittee on Energy and Water Development and Related Agencies**

April 2, 2008

Thank you for the opportunity to discuss the President's FY 2009 Budget Request for the National Nuclear Security Administration (NNSA). I want to thank all of the Members for their strong support for our vital national security missions.

In the eighth year of this Administration, with the support of Congress, NNSA has achieved a level of stability that is required for accomplishing our long-term missions. Our fundamental national security responsibilities for the United States include:

- assuring the safety, security and reliability of the U.S. nuclear weapons stockpile while at the same time considering options for transforming the stockpile and the complex infrastructure that supports it;
- reducing the threat posed by proliferation of nuclear weapons, material and expertise; and
- providing reliable and safe nuclear reactor propulsion systems for the U.S. Navy.

NNSA is examining how to proceed into the future to address evolving national security needs in a manner that anticipates significant changes in how we manage our national security programs, our assets and our people. To that end, the FY 2009 Budget Request for \$9.1 billion, a decrease of \$35 million from the FY 2008 Consolidated Appropriations Act, supports NNSA's crucial national security mission.

The FY 2009 request will go a long way toward making significant progress in many areas of focus, including those that we have embarked upon in FY 2008. NNSA anticipates that this request will enable the accomplishment of the following results:

- moving from a nuclear weapons complex to an integrated national security enterprise, including:
 - making decisions regarding transformation of the nuclear weapons complex based on the analyses in the Complex Transformation Supplemental Programmatic Environmental Impact Statement this year;
 - shrinking the size of the nuclear weapons complex and consolidating special nuclear material at fewer sites;
 - increasing funding for critical facilities, including an increase in funding for the preliminary design of the Uranium Processing Facility and Chemistry and Metallurgy Research Replacement facility over the amount provided in FY 2007;

- increasing funding for cyber security by 22% over the amount provided in FY 2007; and
 - improving cost-savings associated with supply chain management, building upon nearly \$5 million in savings in FY 2007.
- advancing nuclear nonproliferation and countering nuclear and radiological terrorism, including:
 - increasing the amount of funds provided directly to NNSA nonproliferation activities by 7% over the funding amount provided in FY 2007 (not including the Mixed Oxide (MOX) Fuel Fabrication Facility);
 - increasing funding provided to nuclear counter terrorism activities by 40% over the amount provided in FY 2007;
 - increasing the rate at which Highly Enriched Uranium and other radiological and source materials are secured as part of the Global Threat Reduction Initiative (GTRI) program by 14%; and
 - and continuing and completing activities under the Bratislava agreement with the Government of Russia.
- securing and maintaining an aging stockpile, including:
 - continuing our Defense Program's "Getting the Job Done" initiative by staying focused on delivering products to Department of Defense in a timely and cost-efficient manner;
 - increasing the number of weapon dismantlements by 26 percent over the number of weapons dismantled in FY 2007; and
 - addressing current and anticipated challenges associated with certifying the stockpile without requiring underground testing.
- expanding our technical excellence while developing the next generation of national security scientific, engineering and program management talent, including:
 - developing an expanded vision of the future role of our national laboratories in supporting NNSA's national security mission; and
 - expanding NNSA's efforts in nuclear nonproliferation, counterterrorism, forensics, and support to the intelligence community.

Our testimony today will focus on the Weapons Activities, Naval Reactors, and Office of the Administrator accounts.

Weapons Activities Overview

Nuclear weapons remain a cornerstone of our nation's strategic defense posture and will likely remain so throughout this century, even as we continue to reduce the size of our stockpile. Our nuclear deterrent stockpile remains safe, secure and reliable. The supporting infrastructure, however, is aged--many of our critical facilities are over 50 years old. Stockpile Stewardship is working and has been successful to date at finding and remedying the technical challenges facing our aging stockpile. Additionally, we continue to reduce the size of the stockpile to meet the President's mandate to have the smallest nuclear stockpile consistent with our national security objectives. As a result, today the stockpile is half of what it was in 2001, and by 2012, the United States will have the smallest stockpile since the 1950s. Additional reductions in the stockpile are possible, but these reductions will require changes to the weapons complex and the composition of the stockpile.

Our national security enterprise is a national asset and our weapons laboratories remain unrivaled as the pinnacle of American scientific, engineering and technical expertise. Development and maintenance of

our nuclear deterrent force has made possible American leadership in nuclear nonproliferation, nuclear counterterrorism, advanced computing, and high-energy density physics. None of these programs would be possible at its current level without technical advances made by the weapons program. As we continue transforming the infrastructure and maintaining our nuclear deterrent force into the 21st Century, our goal is to do so without jeopardizing the advancements in other vital NNSA national security programs made possible by our investment in weapon activities.

Let there be no doubt: today's nuclear weapons stockpile is safe, secure and reliable and has not required post-deployment nuclear testing to date, nor is nuclear testing anticipated or planned. However, while today's stockpile remains safe, secure and reliable, the weapons laboratories, the Department of Defense and the NNSA are concerned about our future ability to maintain the stockpile in the future. The Stockpile Stewardship Program has worked well, so far, to discover and resolve problems that in the past would have required nuclear testing. However, the collective judgment of the Directors of our national weapons laboratories is that maintaining certification of the finely-tuned designs of the aging Cold War stockpile through Life Extension Programs (LEPs) only, absent nuclear testing, necessarily entails increasing risk overtime. Although recent studies have placed the life of our plutonium pits at 85 to 100 years, other exotic materials used in our warheads degrade at different rates and many of their aging properties are still not well understood. The metallurgical and chemical issues we face with our aging warheads continue to be a technical challenge for our best scientists and the risk of catastrophic technical failure occurring as our warheads age cannot be ruled out absolutely. The one certainty we do know is that warhead certification in the absence of testing will become more difficult, especially as life extensions and component aging move the warhead further away from originally-tested designs.

After 9/11 we realized that the security threat to our nuclear warheads had fundamentally changed. The security features in today's stockpile are commensurate with technologies that were available during the Cold War and designed for with the threats anticipated at that time. Major enhancements in security are not easily available via retrofits in the life extension programs.

To understand the challenges facing our stockpile, an analogy is in order. Today's Mustang remains a high-performance automobile, has about the same dimensions and weighs only a few hundred pounds more than the first Mustangs, and has all the modern safety and security features we expect today—air bags, anti-lock brakes, GPS navigation, satellite radio, theft deterrent and alarm systems. The 1965 version had none of these features, not even seat belts! We deploy warheads today that have 1970-80's safety, security and anti-terrorism features. It does not mean that these warheads are not safe and secure, but we can do better and we should do better. Based on our initial assessments, I believe that the reliable replacement warhead concepts provide opportunities to incorporate the latest technological advances for precluding unauthorized use in a post-9/11 threat environment.

To address these challenges, the Administration has proposed two efforts to maintain the viability of the deterrent well into the 21st Century. The first of these is Complex Transformation. Our goal is to transform the large, costly and inefficient Cold War nuclear weapons complex that cannot meet the full production requirements of our customer into an integrated, modern and cost effective nuclear security enterprise. Complex Transformation involves more than just transforming an aging physical infrastructure; it seeks to transform our contracting and procurement processes and overall management of the enterprise to embrace the best in business and human capital practices. Complex Transformation

also must be accomplished in a way that continues to leverage our core competencies in nuclear weapons design and maintenance to advance the Nation's leadership in counterterrorism, nonproliferation, physical and cyber security, and to support the intelligence community. Our Complex Transformation strategy relies on four pillars:

- Transform the nuclear stockpile through the Stockpile Stewardship Program in partnership with the Department of Defense;
- Transform to a modernized, cost-effective nuclear weapons complex to support needed capabilities in our physical infrastructure;
- Create an integrated, interdependent enterprise that employs best business practices to maximize efficiency and minimize costs; and
- Advance the science and technology base that is the cornerstone of our nuclear deterrent forces and remains essential for long-term national security.

Infrastructure transformation is a major part of Complex Transformation. Some major facilities date back to the Manhattan Project and cannot cost effectively meet today's safety and security requirements. In other cases, new facilities are needed to restore capabilities that have been put in standby since the end of the Cold War but may be needed to support future life extension programs. With the support of Congress, we produced tritium in 2007 for the first time in 18 years and the Tritium Extraction Facility (TEF) at Savannah River is now on-line. Similarly, construction of the Highly Enriched Uranium Materials Facility (HEUMF) at the Y-12 National Security Complex in Oak Ridge will allow us to consolidate uranium storage and improve security with a significantly-reduced security footprint. And at Los Alamos National Laboratory, the Chemistry and Metallurgy Research Replacement (CMRR) project will allow us to continue the plutonium pit surveillance and actinide research vital to maintaining the stockpile and the nation's nuclear deterrent. These three projects are representative of a Complex Transformation that has already commenced.

Our plan for Complex Transformation, detailed in the draft Supplemental Programmatic Environmental Impact Statement (SPEIS), seeks to consolidate special nuclear material at fewer sites and locations within the nuclear weapons complex, close or transfer hundreds of buildings that are no longer required for the NNSA mission, and reduce NNSA's overall footprint by as much as a third over the next ten years. By eliminating multi-site redundancies and consolidating both missions and capabilities at our sites, we expect to dramatically improve our efficiency and cost effectiveness.

The second effort we believe is necessary to maintain the viability of the nuclear deterrent well into the 21st Century involves continued study of reliable replacement concepts. We believe continued work on these concepts is necessary in order to allow the next Administration and Congress to make informed decisions regarding the future composition of the stockpile. Continued study of reliable replacement concepts has been identified by U.S. Strategic Command, the Navy and the Air Force as essential to long-term maintenance of an effective nuclear deterrent force. These concepts, coupled with a responsive nuclear infrastructure, offers promise for further reductions in reserve warheads maintained as a hedge against technical failure. These concepts are specifically envisioned to address long term reliability issues that can affect our existing stockpile resulting from component aging, and refurbishment of aging components, that move us further from the original designs validated by underground nuclear testing. In short, we believe these concepts could provide a means to mitigate the technical risks inherent in a life extension-only approach. Moreover, reliable replacement concepts

would not add new military capabilities to the stockpile, and would introduce safety, surety and anti-terrorism features that cannot easily be retrofitted into the current stockpile.

In our efforts to advance Complex Transformation and examine the potential promise of reliable replacement concepts, we have not lost focus on meeting our day-to-day commitments to the Department of Defense (DoD). Last year, we reconstituted a limited plutonium pit manufacturing capability and produced new pits for the W88 warhead, and maintained on-time delivery of the LEP B61 weapons to the Air Force. In FY 2008, the Department will continue to manufacture W88 pits, maintain a limited pit manufacturing capability of six pits per year.

Meeting the needs of DoD, maintaining the safety, security and reliability of the stockpile, and commencing Complex Transformation would not be possible without the support of our dedicated federal and contractor workforce of 37,000 employees. Retaining our current work force and attracting the next generation of national security scientific and engineering talent is challenging because the number of qualified university graduates continues to decrease each year.

The scientific capabilities and infrastructure developed for the nuclear weapons mission are utilized by DoD, the Department of Homeland Security, and the intelligence community, are recognized as essential to fulfilling their responsibilities. NNSA laboratories have been participating jointly with other government agencies in addressing a wide range of national security challenges—all of which leverage the core mission of nuclear weapons development and sustainability. Recent examples include:

- Supporting war fighter needs in Iraq with improvised explosive device (IED) modeling and analysis;
- Supporting DoD and the Federal Bureau of Investigation in nuclear weapons emergency render-safe and post-event technical forensics;
- Providing solutions to the intelligence community in their nuclear counterterrorism and nonproliferation efforts by drawing upon our nuclear weapons expertise;
- Developing and deploying integrated systems for countering aerosolized bioterrorist releases and bio-decontamination technologies; and
- Developing and deploying portal detector technology to prevent smuggling of special nuclear material.

Basic research at our national security laboratories has provided technology for airborne detection of toxic chemicals, critical infrastructure modeling for disaster response, and modeling of response strategies for potential influenza pandemics.

It is important to recognize that certain major capabilities are needed at each of our national security laboratories if they are to continue to effectively contribute to national security. By leveraging the science that gave us the atomic bomb that helped win World War II and the technical innovations that helped win the Cold War, today's national security labs are tackling tomorrow's national security challenges. Maintaining a core scientific and technical base at our labs will continue to attract outstanding talent to meet our future national security challenges.

Weapons Activities also provides tangible support to nuclear nonproliferation objectives. A major priority within Defense Programs has been weapons dismantlement. The United States remains

committed to its obligations under the Nuclear Nonproliferation Treaty (NPT). In 2004, the President directed a 50 percent reduction in the size of the stockpile, and, in December 2007, he ordered an additional 15 percent cut. The result will be a nuclear stockpile one quarter the size it was at the end of the Cold War and the smallest since the Eisenhower Administration. During FY 2007, DOE achieved a 146 percent increase in the rate of nuclear weapon dismantlement over the FY 2006 rate, almost tripling our goal of a 49 percent rate increase.

Naval Reactors Overview

Also contributing to the Department's national security mission is the Naval Reactors Program, whose mission is to provide the U.S. Navy with safe, militarily effective nuclear propulsion plants and ensure their continued safe, reliable and long-lived operation. Nuclear propulsion enhances our warship capabilities by providing the ability to sprint where needed and arrive on station, ready to conduct sustained combat operations when America's interests are threatened. Nuclear propulsion plays a vital role in ensuring the Navy's forward presence and its ability to project power anywhere in the world.

The Naval Reactors Program has a broad mandate, maintaining responsibility for nuclear propulsion from cradle to grave. Over 40 percent of the Navy's major combatants are nuclear-powered, including aircraft carriers, attack submarines, guided missile submarines, and strategic submarines, which provide the Nation's most survivable deterrent force.

FY09 Budget Request Programmatic Detail

The President's FY 2009 Budget Request for NNSA totals \$9.1 billion, a decrease of \$35.0 million or 0.4 percent less than the FY 2008 Consolidated Appropriations level. We are managing our program activities within a disciplined five-year budget and planning envelope, and are successfully balancing the Administration's high priority initiatives to reduce global nuclear danger as well as future planning for the Nation's nuclear weapons complex within an overall modest growth rate.

The NNSA budget justification contains information for five years as required by Sec. 3253 of P.L. 106-065, the National Defense Authorization Act for Fiscal Year 2000. This section, entitled *Future-Years Nuclear Security Program*, requires the Administrator to submit to Congress each year the estimated expenditures necessary to support the programs, projects and activities of the NNSA for a five-year fiscal period, in a level of detail comparable to that contained in the budget.

The FY 2009-2013 Future Years Nuclear Security Program -- FYNSP -- projects \$47.7 billion for NNSA programs through 2013. This is a decrease of about \$2.3 billion over last year's projections. The FY 2009 request is slightly smaller than last year's projection; however, the outyears increase starting in FY 2010.

WEAPONS ACTIVITIES

Defense Programs

The FY 2009 Budget Request for the programs funded within the Weapons Activities Appropriation is \$6.62 billion, an approximately 5.1 percent increase over the FY 2008 Consolidated Appropriations level. It is allocated to adequately provide for the safety, security, and reliability of the nuclear weapons stockpile and supporting facilities and capabilities.

Directed Stockpile Work (DSW) activities ensure the operational readiness of the nuclear weapons in the nation's stockpile through maintenance, evaluation, refurbishment, reliability assessment, weapon dismantlement and disposal, research, development, and certification activities. The FY 2009 request is organized by Life Extension Programs, Stockpile Systems, Reliable Replacement Warhead, Weapons Dismantlement and Disposition, and Stockpile Services. The request places a high priority on accomplishing the near-term workload and supporting technologies for the stockpile along with long-term science and technology investments to ensure the capability and capacity to support ongoing missions.

The FY 2008 Consolidated Appropriations Act did not contain funding for the Reliable Replacement Warhead (RRW). The Administration believes that the characteristic features of the RRW are the right ones for ensuring the future of our Nation's nuclear deterrent force. The FY 2009 request includes \$10 million to continue the design definition and cost study. The request also continues efforts called out in the Explanatory Statement referenced in Section 4 of Public Law 110-161 to address issues raised in the recent JASON's summer study of the feasibility of certifying RRW designs without nuclear testing.

Campaigns are focused on scientific and technical efforts essential for the certification, maintenance and life extension of the stockpile. The Stockpile Stewardship Program has allowed NNSA to maintain the moratorium on underground testing and move to "science-based" certification and assessments for stewardship by relying on experiments, modeling, simulation, surveillance and historical underground nuclear testing experience. The Science and Engineering Campaigns are focused to provide the basic scientific understanding and the technologies required for the directed stockpile workload and the completion of new scientific and experimental facilities. In the Inertial Confinement Fusion Ignition and High Yield Campaign, the National Ignition Facility (NIF) will focus on completing the first experiment on NIF with a credible chance of demonstrating laboratory-scale ignition in 2010. The Advanced Simulation and Computing Campaign will continue to improve capabilities through development of faster computational platforms in partnership with private industry, and with state of the art techniques for calculations, modeling and simulation, and analysis of highly complex weapons physics information. The Readiness Campaign consists of technology-based efforts to reestablish and enhance manufacturing and other capabilities needed to meet planned weapon component production.

The FY 2009 request makes several changes in the location of programs within Weapons Activities. The Pit Manufacturing and Certification Campaign recently concluded with the successful manufacturing and certification of the W88 pit. Pit manufacturing related activities are moved to the Direct Stockpile Work Stockpile Services program and pit certification activities are transferred to the Science Campaign. In addition, in the Science Campaign, the Advanced Certification program will continue efforts begun in FY 2008 at the direction of the Congress to review, evaluate and implement

key recommendations from the JASON's RRW study regarding approaches to establishing an accredited warhead certification plan without nuclear testing. Work being performed to understand potential improvised nuclear device designs and responses is being transferred to the nuclear weapons incident response account.

Secure Transportation Asset

The Secure Transportation Asset's FY 2009 Budget Request is an increase of \$9.5 million to \$221.1 million. This funding request supports the increase to transportation capacity necessary for the dismantlement of nuclear weapons, departmental initiatives to consolidate and disposition nuclear material, and the implementation of the current operational doctrine to protect nuclear weapons and material in transport.

Readiness in Technical Base and Facilities (RTBF) and Facilities and Infrastructure Recapitalization Program (FIRP)

In FY 2009, we are requesting \$1.89 billion for the maintenance and operation of existing facilities, remediation and disposition of excess facilities, and construction of new facilities. Of this amount, \$1.72 billion is requested for RTBF, an increase of \$83.1 million from FY 2008 operating levels, with \$1.41 billion reserved for Operations and Maintenance. The Operations and Maintenance portion also includes the Institutional Site Support program which supports facility transition and capability consolidation. The request includes \$308.0 million for RTBF Construction.

This request also includes \$169.5 million for the Facilities and Infrastructure Recapitalization Program (FIRP), a separate and distinct program that is complementary to the ongoing RTBF efforts. The FIRP mission, which we expect to be completed in FY 2013, is to restore, rebuild and revitalize the physical infrastructure of the nuclear weapons complex, in partnership with RTBF. This program assures that facilities and infrastructure are restored to an appropriate condition to support the mission, and to institutionalize responsible and accountable facility management practices. The Integrated Prioritized Project List (IPPL) is the vehicle that FIRP will rely on to prioritize and fund outyear projects to reduce legacy deferred maintenance. These projects significantly reduce the deferred maintenance backlog to acceptable levels and support the Stockpile Stewardship mission and transformation of the complex.

This request also includes \$77.4 million for the newly established Transformation Disposition (TD) Program. TD is NNSA's facility and infrastructure (F&I) retirement program for old, Cold War-era structures. The NNSA owns over 35 million gross square feet of footprint and over 25% of the footprint may become excess as a result of complex transformation. TD is established with the goal of reducing non-process and contaminated excess F&I. This includes facilities that are excess to current and future NNSA mission requirements, including those contaminated structures which are not currently the responsibility of the Office of Environmental Management. This program supports the performance measure of reducing the total square feet, improves management of the NNSA facilities and infrastructure portfolio, and reduces long-term costs and risks. The TD Program will set the groundwork for a smaller complex.

All of these activities are critical for the development of a more responsive infrastructure and will be guided by decisions based on the Complex Transformation Supplemental Programmatic Environmental

Impact Statement (SPEIS) and other factors such as funding and national security requirements. Since a significant fraction of our production capability resides in World War II era facilities, infrastructure modernization, consolidation, and sizing consistent with future needs is essential for an economically sustainable Complex. Facilities designed according to modern manufacturing, safety, and security principles will be more cost-effective and responsive to future requirements. For example, a facility could be designed to support a low baseline capacity and preserve the option, with a limited amount of contingency space to augment capacity, if authorized and needed, to respond to future needs.

Having a reliable plutonium capability is a major objective of NNSA planning and is a key requirement if the nation is to maintain an effective deterrent, regardless of the composition of the stockpile. Options for plutonium research, surveillance, and pit production are being evaluated as part of the Complex Transformation NEPA process, with a decision anticipated in 2008. The preferred alternative in the draft Complex Transformation SPEIS proposes that Los Alamos National Laboratory facilities at Technical Area 55 (TA-55) provide plutonium research, surveillance and pit production capabilities. This alternative includes the proposed Chemistry and Metallurgy Research Replacement – Nuclear Facility (CMRR-NF) to achieve the objectives of (1) closing the aging existing Chemistry and Metallurgy Research (CMR) facility, (2) replacing essential plutonium surveillance and research capabilities currently at Lawrence Livermore National Laboratory and those being conducted in Plutonium Facility 4 (PF-4) in TA-55, and (3) achieving a net manufacturing capacity of 50 – 80 pits per year by allowing surveillance activities now occurring in PF-4 to be conducted in CMRR.

Completion of the Highly Enriched Uranium Materials Facility (HEUMF) would allow a reduction of the overall size of the high security area at the Y-12 National Security Complex. If NNSA ultimately decides to build a Uranium Processing Facility (UPF) at Y-12, then Y-12's high security area would be reduced from 150 acres to 15 acres. This reduction combined with the engineered security features of the HEUMF and UPF, would allow NNSA to meet the Design Basis Threat (DBT) at significantly reduced costs, to lower non-security costs, and to provide a responsive highly enriched uranium manufacturing capability.

Environmental Projects and Operations

The Environmental Projects and Operations/Long-Term Stewardship Program is requested at \$40.6 million in FY 2009. This program serves to reduce the risks to human health and the environment at NNSA sites and adjacent areas by: operating and maintaining environmental clean-up systems; performing long-term environmental monitoring activities; and integrating a responsible environmental stewardship program with the NNSA mission activities. The increase in this program is necessary to continue compliance with statutory requirements and to provide Long-Term Stewardship activities for two additional NNSA sites.

Nuclear Weapons Incident Response

The Nuclear Weapons Incident Response (NWIR) Program serves as the United States' primary capability for responding to and mitigating nuclear and radiological incidents worldwide. The FY 2009 Request for these activities is \$221.9 million, of which \$31.7 million is dedicated to the continued implementation of two national security initiatives that will strengthen the Nation's emergency response

capabilities—the National Technical Nuclear Forensics (NTNF) and the Stabilization Implementation programs.

The NTNF program will continue the development of capabilities to support pre- and post-detonation activities and enhance technical nuclear forensics capabilities. The continued development of this capability will facilitate the thorough analysis and characterization of pre- and post-detonation radiological and nuclear materials and devices, including devices used in nuclear detonations as well as interdicted devices. Developing forensic capabilities of this nature is crucial to the overall objective of identifying the origin and pathways of interdicted nuclear materials, warheads and improvised nuclear devices.

Stabilization is a capability aimed at using advanced technologies to enhance the U.S. Government's ability to interdict, delay and/or prevent operation of a terrorist's radiological or nuclear device until national assets arrive on the scene to conduct traditional "render safe" procedures. NNSA has actively sponsored new research in this area and, additionally, continues to leverage emerging technologies that have been demonstrated successfully by the DoD in support of the global war on terrorism. In the implementation phase, NNSA will transfer these matured projects into operational testing to selected teams across the country, potentially followed by their transition into the collection of tools available to Federal response teams.

Physical and Cyber Security

The FY 2009 Budget Request for Defense Nuclear Security is \$737.3 million, a 7.7 percent decrease from the FY 2008 appropriation. The FY 2009 request supports the base program and the program's focus on sustaining the NNSA sites 2003 Design Basis Threat baseline operations and implementing the 2005 DBT Policy upgrades with the Nevada Test Site reaching compliance in FY 2009. Starting in FY 2009, there is no longer an offset in this account or in the Departmental Administration account for the security charges associated with reimbursable work. These activities will be fully funded by the programs with direct appropriations.

During FY 2009, the program will focus on eliminating or mitigating identified vulnerabilities across the weapons complex. Measures will include additional protective force training, acquiring updated weapons and support equipment, improving physical barrier systems and standoff distances, and reducing the number of locations with "targets of interest." Physical security systems will be upgraded and deployed to enhance detection and assessment, add delay and denial capabilities, and to improve perimeter defenses at several key sites. There are no new construction starts.

The FY 2009 Budget Request for Cyber Security is \$122.5 million, an 11 percent increase from the FY 2008 appropriation. The FY 2009 Budget Request is focused on sustaining the NNSA infrastructure and upgrading elements designed to counter cyber threats and vulnerabilities from external and internal attacks. This funding level will support cyber security revitalization, enhancements in assets and configuration management, and identify emerging issues, including research needs related to computer security, privacy, and cryptography.

Additionally, the Cyber Security funding will provide for enhancement, certification, and accreditation of unclassified and classified computer systems to ensure the proper documentation of risks and

justification of associated operations for systems at all sites. The funding within this request will also be applied to foster greater cyber security awareness among Federal and contractor personnel. NNSA will sponsor a wide range of educational initiatives to ensure that our workforce possesses the ever-expanding cyber security skills critical to safeguarding our national security information. Funding provided to NNSA sites will be conditioned upon their implementation of a risk-based approach to cyber security management and policy.

NAVAL REACTORS

The Naval Reactors FY 2009 Budget Request of \$828 million is an increase of \$20 million from the FY 2008 request. Naval Reactor's development work ensures that nuclear propulsion technology provides options for maintaining and upgrading current capabilities, as well as for meeting future threats to U.S. security.

The majority of funding supports Naval Reactor's number-one priority of ensuring the safety and reliability of the 102 operating naval nuclear propulsion plants. This work involves continual testing, analysis, and monitoring of plant and core performance, which becomes more critical as the reactor plants age. The nature of this business demands a careful, measured approach to developing and verifying nuclear technology, designing needed components, systems, and processes, and implementing them in existing and future plant designs. Most of this work is accomplished at Naval Reactors' DOE laboratories. These laboratories have made significant advancements in extending core lifetime, developing robust materials and components, and creating an array of predictive capabilities.

Long-term program goals have been to increase core energy, to achieve life-of-the-ship cores, and to eliminate the need to refuel nuclear-powered ships. Efforts associated with this objective have resulted in planned core lives that are sufficient for the 30-plus year submarine (based on past usage rates) and an extended core life planned for CVN 21 (the next generation aircraft carrier). The need for nuclear propulsion will only increase over time as the uncertainty of fossil fuel cost and availability grows.

Naval Reactors' Operations and Maintenance budget request is categorized into six areas: Reactor Technology and Analysis; Plant Technology; Materials Development and Verification; Evaluation and Servicing; Advanced Test Reactor (ATR) Operations and Test Support; and Facility Operations.

The \$204 million requested for Reactor Technology and Analysis will support work that ensures the operational safety and reliability of reactor plants in U.S. warships and extends the operational life of Navy nuclear propulsion plants. This work includes continued development of the Reactor System Protection Analysis for the next generation aircraft carrier, CVN 21. These efforts also support continued work on core design concepts for submarines.

The increasing average age of our Navy's existing reactor plants, along with future extended service lives, a higher pace of operation and reduced maintenance periods, place a greater emphasis on our work in thermal-hydraulics, structural mechanics, fluid mechanics, and vibration analysis. These factors, along with longer-life cores, mean that for years to come, these reactors will be operating beyond our previously-proven experience base.

The \$104 million requested for Plant Technology provides funding to develop, test, and analyze components and systems that transfer, convert, control, and measure reactor power in a ship's power plant. Naval Reactors is developing components to address known limitations and to improve reliability of instrumentation and power distribution equipment to replace aging, technologically obsolete equipment. Development and application of new analytical methods, predictive tests, and design tools are required to identify potential concerns before they become actual problems. This enables preemptive actions to ensure the continued safe operation of reactor plants and the minimization of maintenance costs over the life of the ship. Additional technology development in the areas of chemistry, energy conversion, instrumentation and control, plant arrangement, and component design will continue to support the Navy's operational requirements.

The \$106 million requested for Materials Development and Verification supports material analyses and testing to provide the high-performance materials necessary to ensure that naval nuclear propulsion plants meet Navy goals for extended warship operation and greater power capability. These funds support the test assemblies for use in ATR, post irradiation examination of the materials tested at ATR, and destructive and non-destructive examinations of spent navy nuclear fuel and reactor component materials.

The \$264 million requested for Evaluation and Servicing sustains the operation, maintenance, and servicing of Naval Reactors' operating prototype reactor plants. Reactor core and reactor plant materials, components, and systems in these plants provide important research and development data and experience under actual operating conditions. These data aid in predicting and subsequently preventing problems that could develop in fleet reactors. With proper maintenance, upgrades, and servicing, the two prototype plants will continue to meet testing needs for at least the next decade.

Evaluation and Servicing funds also support the implementation of the dry spent fuel storage production lines that will put naval spent fuel currently stored in water pools at the Idaho Nuclear Technology and Engineering Center (INTEC) on the Idaho National Laboratory (INL) and at the Expended Core Facility (ECF) on the Naval Reactors facility in Idaho into dry storage. Additionally, these funds support ongoing decontamination and decommissioning of inactive nuclear facilities at all Naval Reactors sites to address their "cradle to grave" stewardship responsibility for these legacies and minimize the potential for any environmental releases.

The \$60 million requested for Advanced Test Reactor Operations and Test Support sustains the ongoing activities of the INL ATR facility, owned and operated by the Office of Nuclear Energy (NE), Science and Technology.

In addition to the budget request for the important technical work discussed above, facilities funding is required for continued support of Naval Reactor's operations and infrastructure. The \$32 million requested for facilities operations will maintain and modernize the program's facilities, including the Bettis and Knolls laboratories as well as ECF and Kesselring Site Operations (KSO), through capital equipment purchases and general plant projects.

The \$22 million requested for construction funds will be used to support the project engineering and design of KAPL infrastructure upgrades and ECF M290 receiving and discharge station, to support the design and construction of production support complex at NRF, and to support the construction of a materials research technology complex.

OFFICE OF THE ADMINISTRATOR

This account provides for all Federal NNSA staff in Headquarters and field locations except those supporting Naval Reactors and the Office of Secure Transportation couriers. The FY 2009 Budget Request is \$404.1 million, essentially level with the FY 2008 appropriation reflecting a leveling of staffing growth.

This Budget Request is consistent with the funding needed for personnel support in an account that is comprised of over 70 percent salaries and benefits. Staffing is projected to increase by 95 to a total of 1,942 FTE in FY 2009, in support of new hires brought on-board at the end of FY 2008 and beginning of FY 2009 to meet increased requirements in Defense Nuclear Nonproliferation and Emergency Operations program goals as well as address NNSA workforce planning skill mix issues. Information Technology (IT) for the Federal staff is also included in this account, and the FY 2009 request is level with 2008.

The outyear budget for this account projects a 3.7 percent increase in FY 2010, followed by about 4 percent annually in the ensuing years. There remain significant challenges in managing this account due to the essentially uncontrollable impacts of escalation on payroll and benefits for NNSA staff that consume such a high percentage of this account.

Historically Black Colleges and Universities (HBCU) Support

A research and education partnership program with the HBCUs and the Massie Chairs of Excellence was initiated by the Congress through Congressionally directed projects in the Office of the Administrator appropriation in FY 2005. The NNSA has established an effective program to target national security research opportunities for these institutions to increase their participation in national security-related research and to train and recruit HBCU graduates for employment within the NNSA. The NNSA goal is a stable \$10 million annual effort. However, the FY 2008 Consolidated Appropriations Act (P.L. 110-161), included \$22.1 million in congressionally directed projects in support of the HBCU programs within the Office of the Administrator account, for both new and existing projects. In FY 2009, the Office of the Administrator appropriation will provide funding of \$3.6 million in continuing support for HBCU activities for institutions not yet ready to engage in direct NNSA mission support. The Weapons Activities appropriation will provide up to \$6 million; the Defense Nuclear Nonproliferation appropriation will provide up to \$3 million; and the Naval Reactors program will fund up to \$1 million of HBCU efforts in FY 2009 in multiple research partnerships directly supporting mission program activities.

National Nuclear Security Administration

**Appropriation and Program Summary Tables
Outyear Appropriation Summary Tables**

FY 2009 BUDGET TABLES

National Nuclear Security Administration

Overview

(dollars in thousands)

	FY 2007 Current Appropriations	FY 2008 Original Appropriation	FY 2008 Adjustments	FY 2008 Current Appropriation	FY 2009 Request
National Nuclear Security Administration					
Office of the Administrator	358,291	405,987	-3,850	402,137	404,081
Weapons Activities	6,258,583	6,355,633	-58,167	6,297,466	6,618,079
Defense Nuclear Nonproliferation	1,824,202	1,673,275	-15,279	1,657,996	1,247,048
Naval Reactors	781,800	781,800	-7,114	774,686	828,054
Total, NNSA	9,222,876	9,216,695	-84,410	9,132,285	9,097,262
Rescission of Prior Year Balances	0	-322,000	0	-322,000	0
Total, NNSA (OMB Scoring)	9,222,876	8,894,695	-84,410	8,810,285	9,097,262

Appropriation Summary

Outyear Appropriation Summary

NNSA Future-Years Nuclear Security Program (FYNSP)

(dollars in thousands)

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
NNSA					
Office of the Administrator	404,081	419,848	436,266	451,771	469,173
Weapons Activities	6,618,079	6,985,695	7,197,844	7,286,912	7,460,318
Defense Nuclear Nonproliferation	1,247,048	1,082,680	1,076,578	1,111,337	1,133,982
Naval Reactors	828,054	848,641	869,755	880,418	899,838
Total, NNSA	9,097,262	9,336,864	9,580,443	9,730,438	9,963,311

**Office of the Administrator
National Nuclear Security Administration**

Overview

Appropriation Summary by Program

(dollars in thousands)

FY 2007 Current Appropriation	FY 2008 Original Appropriation	FY 2008 Adjustments	FY 2008 Current Appropriation	FY 2009 Request	\$ Change
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Office of the Administrator

**Office of the
Administrator**

358,291^a 383,487 -3,490 379,997 404,081 +24,084

**Congressional Directed
Projects**

0 22,500 -360 22,140 0 -22,140

**Total, Office of the
Administrator**

358,291 405,987 -3,850^b 402,137 404,081 +1,944

Public Law Authorization:

FY 2008 Consolidated Appropriations Act (P.L. 110-161)

National Nuclear Security Administration Act, (P.L. 106-65), as amended

Outyear Appropriation Summary

(dollars in thousands)

FY 2010	FY 2011	FY 2012	FY 2013
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Office of the Administrator

419,848 436,266 451,771 469,173

^a Reflects the Congressionally approved appropriation transfer of \$17,000,000 (07-D-04) from a source within the Weapons Activities appropriation and \$1,000,000 from the FY 2007 supplemental in support of the Defense Nuclear Nonproliferation program.

^b Reflects a rescission of \$3,850,000 as cited in the FY 2008 Consolidated Appropriations Act (P.L. 110-161).

Weapons Activities

Funding Profile by Subprogram

(dollars in thousands)

	FY 2007 Current Appropriation	FY 2008 Original Appropriation	FY 2008 Adjustments	FY 2008 Current Appropriation	FY 2009 Request
Weapons Activities					
Directed Stockpile Work	1,430,192	1,413,879	-12,627	1,401,252	1,675,715
Science Campaign	267,758	290,216	-2,592	287,624	323,070
Engineering Campaign	161,736	171,075	-1,527	169,548	142,742
Inertial Confinement Fusion Ignition and High Yield Campaign	489,706	474,442	-4,236	470,206	421,242
Advanced Simulation and Computing Campaign	611,253	579,714	-5,177	574,537	561,742
Pit Manufacturing and Certification Campaign	242,392	215,758	-1,927	213,831	0
Readiness Campaign	201,713	159,512	-1,424	158,088	183,037
Readiness in Technical Base and Facilities	1,613,241	1,652,132	-14,751	1,637,381	1,720,523
Secure Transportation Asset	209,537	213,428	-1,905	211,523	221,072
Nuclear Weapons Incident Response Facilities and Infrastructure	133,514	160,084	-1,429	158,655	221,936
Recapitalization Program	169,383	181,613	-1,622	179,991	169,549
Environmental Projects and Operations	0	8,669	-77	8,592	40,587
Transformation Disposition	0	0	0	0	77,391
Defense Nuclear Security	656,653	806,434	-7,201	799,233	737,328
Cyber Security	104,505	101,191	-904	100,287	122,511
Congressionally Directed Projects	0	48,000	-768	47,232	0
Subtotal, Weapons Activities	6,291,583	6,476,147	-58,167	6,417,980	6,618,445
Security Charge for Reimbursable Work	-33,000	-34,000		-34,000	0
Use of Prior Year Balances	0	-86,514		-86,514	-366
Total, Weapons Activities	6,258,583	6,355,633	-58,167	6,297,466	6,618,079

Public Law Authorization:

FY 2008 Consolidated Appropriations Act (P.L. 110-161)

National Nuclear Security Administration Act, (P.L. 106-65), as amended

Outyear Funding Profile by Subprogram

	(dollars in thousands)			
	FY 2010	FY 2011	FY 2012	FY 2013
Weapons Activities				
Directed Stockpile Work	1,762,079	1,789,979	1,760,218	1,776,388
Science Campaign	309,091	295,192	296,662	299,902
Engineering Campaign	148,863	146,565	150,475	153,907
Inertial Confinement Fusion Ignition and High Yield Campaign	434,007	381,173	373,005	377,762
Advanced Simulation and Computing Campaign	526,373	510,808	514,405	520,645
Pit Manufacturing and Certification Campaign	0	0	0	0
Readiness Campaign	170,003	161,139	161,130	164,295
Readiness in Technical Base and Facilities	1,904,398	2,153,557	2,275,909	2,372,916
Secure Transportation Asset	249,555	261,543	268,134	269,325
Nuclear Weapons Incident Response	229,661	235,211	242,425	250,947
Facilities and Infrastructure Recapitalization Program	192,945	196,379	195,096	194,779
Environmental Projects and Operations	37,288	39,026	37,468	36,040
Transformation Disposition	89,457	88,589	88,008	87,863
Defense Nuclear Security	818,285	817,809	793,856	814,928
Cyber Security	113,690	120,874	130,121	140,621
Total, Weapons Activities	6,985,695	7,197,844	7,286,912	7,460,318

Naval Reactors

Funding Profile by Subprogram

(dollars in thousands)					
	FY 2007 Current Appropriation	FY 2008 Original Appropriation	FY 2008 Adjustments	FY 2008 Current Appropriation	FY 2009 Request
Naval Reactors Development					
Operations and Maintenance (O&M)	747,648	739,100	-6,726	732,374	771,600
Program Direction	31,380	32,700	-297	32,403	34,454
Construction	2,772	10,000	-91	9,909	22,000
Total, Naval Reactors Development	781,800	781,800	-7,114	774,686	828,054

Public Law Authorizations:

P.L. 83-703, "Atomic Energy Act of 1954"

"Executive Order 12344 (42 U.S.C. 7158), "Naval Nuclear Propulsion Program"

P.L. 107-107, "National Defense Authorizations Act of 2002", Title 32, "National Nuclear Security Administration"

John Warner National Defense Authorization Act for FY 2007, (P.L. 109-364)

FY 2008 Consolidated Appropriations Act (P.L. 110-161)

National Nuclear Security Administration Act, (P.L. 106-65), as amended

Outyear Funding Profile by Subprogram

(dollars in thousands)				
	FY 2010	FY 2011	FY 2012	FY 2013
Naval Reactors Development				
Operations and Maintenance	782,087	811,651	827,164	831,084
Program Direction	35,754	37,054	38,354	39,754
Construction	30,800	21,050	14,900	29,000
Total, Naval Reactors Development	848,641	869,755	880,418	899,838

Mr. VISCLOSKY. Admiral.

Mr. D'AGOSTINO. We will do one statement, sir, if that is okay.

Mr. VISCLOSKY. Okay.

Administrator D'Agostino, I appreciate the cooperation on Pit disassembly. On MOX, the money would be spent out of NE but the management would stay, if I understand the statement correctly.

MOX

Mr. D'AGOSTINO. Barring any further changes, sir, that is right. As you know, we have requested money for MOX in the NE account. We would, through an economy act, transfer support of MOX to the Nuclear Energy program, for the management of that activity by the team of people that we have. For the Pit Disassembly and Conversion Facility, we have decided that that is something that is completely within my authority to do, and I have recognized the desire of not only the committee but of Congress to make that transfer. And we have provided that shift.

Mr. VISCLOSKY. On the 2009 budget for MOX, did it end up coming up here after OMB in NN, not NE, for the monetary request?

Mr. D'AGOSTINO. No, it came up in the NE account, nuclear energy account.

Mr. VISCLOSKY. For MOX for 2009?

Mr. D'AGOSTINO. Yes, sir.

Mr. VISCLOSKY. Okay. If I could, I am just going to ask one question here at the beginning, and then I will recognize Mr. Wamp.

COMPREHENSIVE STRATEGY

Getting to the strategy, you indicate that a report was sent up. I have for the record the language from the omnibus appropriations bill that was signed into law. As far as looking at a comprehensive strategy for the use of weapons, as well as how we defend ourselves against those types of weapons, and not necessarily just in a nuclear sense, but conventional means and intelligence means.

Mr. D'AGOSTINO. Right.

Mr. VISCLOSKY. Are you saying that the report you sent up is that strategy? Or is it the strategy for the complex for the weapons?

Mr. D'AGOSTINO. The report that we sent up provides a broader strategy look. It actually looks to answer some specific questions that we received from Congress the year before. I believe there were seven fairly specific questions on that, describing this transition from policy, first; supplies of the stockpile, second; what it does to the infrastructure, third—drawing that connection between those three pieces.

This paper provides that information. And, additionally, it provides a classified section on what is going on in the rest of the world, to put our program in context with the global security environment, which is a factor that the Department of Defense considers.

Mr. VISCLOSKY. Now would it be your understanding that the Secretaries of Defense and Energy, for example, people in the Intelligence Community, have looked or are looking at the overarching strategy that the weapons in the complex fit into?

Mr. D'AGOSTINO. Yes. Well, the Intelligence Community has helped inform the Secretary of Defense and Energy on this. It is a 20-some-odd-page classified white paper. And it puts into context the kinds of changes, the basis, if you will, for our current approach. If you recall, the 1,700 to 2,200 operationally deployed strategic warheads is based on what the country needs for its own national security in the context of what is going on in the rest of the world.

Then it translates that into this question of is there a better way to further reduce the size of the stockpile? I think that is a question that we feel is important. From my standpoint, it drives a lot of the costs in our program. I have a parochial desire, if you will, sir, to understand that and have those numbers driven down appropriately. But I don't want to be in a situation of having to ask you, sir, for example, to overbuild an infrastructure to support. So what that document should do is describe how we can get to an appropriately sized stockpile.

I happened to be with General Chilton last night, Commander of Strategic Command, and General Cartwright, the Vice Chairman of the Joint Chiefs of Staff, and we briefed Senate Energy and Water Members as well as authorization Members last night in the Senate, talking about this connection, because it is very hard to have just a piece of paper describe all of the pieces and the connection on how much further we can go.

And I would be happy, sir, to actually arrange a time when the three of us could come talk to you and the committee in that context. Whether it is a briefing or testimony, I think either one would work fine.

Mr. VISCLOSKY. Thank you.

Mr. WAMP.

Mr. WAMP. Thank you, Mr. Chairman.

Welcome to all three of you, particularly you, Tom. I just want to say, I have seen the whole transformation here pre-NNSA/post-NNSA. I thank you for your service, because you are as strong in this position as anybody has been in my 14 years of service and 10 years on this committee.

Mr. D'AGOSTINO. Thank you.

Mr. WAMP. But I will tell you, two of the biggest challenges that we face—the three biggest challenges we face on this subcommittee, from my perspective, are the Corps of Engineers and the need for reforms there, because the last 6 years are not near as good as the first 6 years of my 12 years on Approps with the Corps of Engineers. And their big projects are not being managed well, and it is costing us a whole lot more money than it was ever supposed to.

Another big problem is on environmental management, the same kind of problem. And this committee ends up wrestling with the administration on funding the mistakes more than the successes. And that is a real hole you dig for yourself in our business.

Mr. D'AGOSTINO. Right.

ENVIRONMENTAL MANAGEMENT

Mr. WAMP. And I want to start on that front, because we have to know that the management will be there for the investments

that you are asking for. And so I want you to, kind of, give me an update on NNSA, honest assessment from your perspective on your ability to handle the funding for big projects.

I said, a year ago, I hate to be parochial, but when you get the NNSA missions, parochial—Oak Ridge is really at the heart of the whole complex, so it is not parochial to talk about the big projects, because, frankly, they are bang, bang, bang. Uranium is central to this whole issue, and we are kind of the center of uranium for the country.

HEUMF is almost finished. Following that, UPF, the need for that. The preferred alternative of where all this goes in your reconfiguration and what you laid out just in general terms on it is too expensive, it is too old, that we are not really preparing for the future. Intelligence will tell us what we have to do. How we do it and the resources necessary to do it is what is debated here at this committee. There is a thing called CMC that may follow that.

Give me, then, a report on how you are able to manage these big projects. Again, we are about to finish HEUMF, and, frankly, compared to these other investments this committee is making, it is going to be a successful completion.

Mr. D'AGOSTINO. Yes, sir.

Mr. WAMP. And then can we go into another major project? And how is your preferred alternative lining all of these investments up over the next 10 years?

Mr. D'AGOSTINO. Certainly. Thanks very much for the question.

I share your concern on management of large projects. It is something that is always on my mind. Last year, when I was acting in this position with Mr. Ostendorff as he came in and we transitioned roles there for a while, we agreed that what we needed to do over the next 18 months, which we are obviously halfway through is focus. To me, it is about leadership and focus.

I had the experience in Defense Programs, which General Smolen is now managing, 2 years ago to say, let's get together a list, make it clear what people expect, what the leadership wants the organization to do, put it on one sheet of paper, promulgate it out, hold our senior executives accountable for it, actually put that sheet of paper in their performance plans, put in our contractors' performance plans, and then focus on delivering on those items.

It worked well in Defense Programs. We had very significant success in delivering on our products and on the efficiencies. And General Smolen is carrying that through in Defense Programs.

We are going to apply the same thing for the broader NNSA as a whole. And I have a list. Now, unfortunately, it is not 10 items. It is 15 items for the whole NNSA on things that we will do this year in the NNSA. And I am holding my managers accountable for it.

So it is leadership and accountability, to start off with.

I recognize that the key one of the elements is project management. One of my six focus areas is project management. We have undertaken and we have actually qualified and certified our Federal project managers. In the past, before 2005, we were not in that situation. Since that time, we have qualified and certified our project managers, just like happens out in industry, to standards, and we check on their standards and make sure they are qualified.

I learned that from the Navy in my days in the Naval Reactors organization, and it is absolutely vital to have people that know what their job is and what they are supposed to be doing.

Since 2005, we have only had one project in the NNSA that has had to be rebaselined as a result of not establishing a good performance baseline. I am not satisfied with that; I want to get those numbers to zero. Once we establish a performance baseline, that is what we deliver on.

But you asked about how we were doing. I think we are heading in the right direction. I think we have a lot of challenges left on these large, unique projects, but I think we are heading in the right direction.

Los Alamos has done much better on safety and security. They have reduced the amount of security holdings from 80,000 pieces of classified information down to 5,000 pieces of classified electronic media. They are reducing their vault-type rooms. Mike Anastasio, the Director of the Los Alamos National Laboratory, really gets it, the fact that he has to manage that lab as an integrated laboratory, not as a confederation of small laboratories that was what, in my view, we had in the past.

At Y-12, at your site, sir, we have already demonstrated this past year about \$27 million in cost savings through this program. We call it the Y-12 Throughput Improvement Program. We have had a 300 percent increase in components for the B61 life extension at Y-12 as a result of the actions that General Smolen has taken. And we have also had a 320 percent increase in uranium machining operations.

I, personally, think that is remarkable, given the state of the infrastructure at Y-12 right now. Building 9212 is a mess. Safety at the laboratories is much better. Our days-away reportable cases and total reportable injury rates have improved by not ones and twos of percentages, but by tens, twenties, thirties, forties and fifties of percentages. I think the work at the Kansas City Plant has been significant in integrating supply chain management.

I want to shift to is away from the past, which is where we had eight independent contractors each with their own systems and policies and approaches, and operate this outfit as an integrated national security complex where we leverage our procurement buys. We have \$5 million of auditable, demonstrated savings and procurement last year. We think we can increase that at least to about \$30 million this year, and I have charged to increase that even further. This is this idea of reverse auctions, so where we have our suppliers competing for our business.

I am excited about what the future will hold here. I don't dismiss this as easily accomplished. And that is why the challenge for me is to get the complex smaller. I have to get it focused. Each organization needs to know what they are supposed to do. And I believe that there is a real opportunity to continue on on some of the advances we have made in the past.

Mr. WAMP. Is your process complete now on the preferred alternative and pursuing the UPF in Oak Ridge and it being the uranium center?

Mr. D'AGOSTINO. It is not completed. Last week we just finished our 20th meeting. We had 20 public hearings from around the com-

plex. We actually added one to make it up to 20. We have essentially doubled the amount of time that the public is allowed to comment on this, because we recognize that this is a big activity and we do want to get public input. We have received 50,000 comments to date.

We have been clear to the public, even though we will likely close the input period on April 10th. We are continuing to analyze input, that we will continue to take public input, because we want to make sure we have that.

But we are well under way toward getting ourselves situated where we have a decision opportunity that we can tee up, talk to the committee beforehand, and tee up a decision this year.

Mr. WAMP. By fall?

Mr. D'AGOSTINO. By fall, yes, sir.

Mr. WAMP. Mr. Chairman, I will wait. I know I have gone over the 5-minute rule.

Mr. VISCLOSKY. Mr. Simpson.

Mr. SIMPSON. Thanks, Mr. Chairman.

Welcome to the committee. It is good to see you back again, both of you—all three of you.

Admiral Donald, let me ask you a quick question before I get into a series of these. Back in 2005, a senior DOE official testified before this subcommittee regarding two building at the DOE INL campus, buildings 651 and 691. According to this official, "These facilities may offer an exceptional opportunity to consolidate materials and components in a location with robust security features in place."

INL STORAGE

These buildings aren't too far from the Naval Reactors site. Given the sensitive nature of the materials you work with, do you have any need for additional secure material storage or consolidation of INL?

Admiral DONALD. First, thanks for the opportunity to be here today. And I do want, before I get a chance to move on with that, to just thank the committee, subcommittee for the support that they have given this program over the years and contributing to the successes that we have enjoyed.

Mr. SIMPSON. Before you answer, let me tell you, as I have told you personally, you almost forget that the Naval Reactors are out there, because you never hear anything bad about them. They are always doing their job. And the people of Idaho are very supportive of the job you are doing.

Admiral DONALD. Yes, sir. Thank you very much. And it is a two-way street. I think the relationship between the State and Naval Reactors program is as good as it has ever been, and it helps us do our job and certainly with the support of this committee.

With respect to your specific question, right now I would tell you, sir, no, sir, I don't have any need for an additional secure storage for materials. What the major work that we are involved in out there now, as you are well aware, is dry storage of our spent nuclear fuel in preparation for ultimate repository storage, wherever that may be.

That work is progressing well now. We went in full production in 2006. We have just received our first shipment of fuel from the INTEC facility here within the last 2 weeks, and that is being processed as we speak right now. So, from an infrastructure point of view and an overall storage point of view, we are satisfied where we are right now.

I will take your question back and will review that just to make sure that we are fully satisfied for the long term.

But the bigger issue that faces us right now in Idaho that you and have I discussed previously is we have some aging facilities out there, and we believe we have an agreement with the State of Idaho to put forth our continued presence out there to do the work that the Navy needs and the Nation needs. And it is obvious that we will need to do some recapitalization out there. So those project plans are in the preliminary works right now, and we would certainly take under advisement any recommendations that you might have in that regard.

Mr. SIMPSON. Mr. D'Agostino, let me ask you, let me go through a little history that I am sure you are aware of.

Mr. D'AGOSTINO. Well, maybe not.

Mr. SIMPSON. Ambassador Brooks's testimony on March 18 of 2005: "NNSA has begun to work with the Department of Office of Nuclear Energy, Office of Science, the Office of Environmental Management to evaluate the use of two facilities at the Idaho National Laboratory for interim storage from throughout the NNSA complex." And it describes the facilities. It says, "But these facilities may offer exceptional opportunity to consolidate materials or components in a location with robust security features."

Mr. D'AGOSTINO. Right.

Mr. SIMPSON. 2006—that was 2005–2006 language in the conference report by this committee: "The conferees provided an additional \$5 million for project engineering and design funding to begin a new construction project to upgrade CPP 651 and CPP 691 at the Idaho National Laboratory for complex-wide material consolidation of special nuclear material. The conferees direct the Department to include a PED line-item project to continue this activity in fiscal year 2007 budget request."

Fiscal year 2007, although there was not a budget because, it was done through the long-term CR, the House language says, "The committee directs the start of construction projects at the Idaho National Laboratory retrofitting building 651 and completing building 691 to handle special nuclear material consolidation of storage. The committee directs the \$5 million"—that is the \$5 million from previous years—"provided to the Office of Security and Performance Assurance for planning the material consolidation construction activities in fiscal year 2006 conference report be reprogrammed to the NNSA Office of Safeguards and Securities for its intended purpose."

Fiscal year 2008, language in the conference report: "Funding for safeguards and securities includes \$71,751,000 for construction activities, and an additional \$14,846,000 is provided for the refurbishment of building 651 and completion of building 691 at the Idaho National Laboratory to handle special nuclear material consolidation storage and other missions. The amendment bill trans-

fers the \$4.9 million,” which is from the year before, from the year before, from the year before, “provided in fiscal year 2006 to the other defense activities accounts to begin planning activities for the Idaho project.”

I assume this is well under way.

Mr. D’AGOSTINO. Okay. You have a better history memory than I have, sir.

Mr. SIMPSON. Well, it is written down.

Mr. D’AGOSTINO. But if I could, the answer to your question on the assumption is, no, it is not under way. And I would like to explain, if I could.

Back in 2005, Ambassador Brooks’s testimony and maybe in a discussion with you, sir, about all the options that we were looking at on consolidating special nuclear materials.

Mr. SIMPSON. And let me point out here, this was not my idea. This it was NNSA’s idea.

Mr. D’AGOSTINO. Right. I understand, sir. Which was, we wanted to make sure that all options were on the table in looking at what is the most effective way, not only for the NNSA but for the Department as a whole, which we are a part of, to consolidate special nuclear materials.

It was thought at the time that ultimately, our destination for plutonium was to Savannah River in order for it ultimately to be turned into mixed oxide fuel and to be burned up in light water reactors to generate electricity. There were a lot of questions at the time on whether that final destination was actually going to be an avenue that was open for the Department to proceed.

And so we said at that point in time that was not clear, that that was going to happen, but we wanted to get that material moving and out because it has a lot to do with security. Because we knew it was either that or we invest hundreds of millions of dollars in Washington State to upgrade security to handle what we expected was an ever-increasing design basis threat problem.

Since that time and in late 2006, early 2007, not but 14, 15 months ago, kind of in between all of the bills that were either continuing resolutions or the money was being passed on from year to year, a couple of things happened.

One is we finished our analysis on how much material had to be moved, what it would take to move it, and whether we introduce more risk by packaging and unpackaging and moving it twice versus moving it once. That analysis had been done.

Two is, in concert with that, we looked at the upgrades to the two buildings, the 651—one of them was a completion of the building and I think one of them was an upgrading of the building of those two facilities, what it would take to actually get those things up to security standards. And the estimate at the time was over \$300 million to upgrade those facilities.

Since that time, the pathway to Savannah River opened up and the need to have either an interim storage location for it or a consolidated place became less obvious. And the thought that instead of spending \$300 million to permanently upgrade the security, finish the buildings and upgrade the security—is that it is significantly cheaper to move the material once from Washington to South Carolina.

So there are a couple of parallel activities in that process. Ultimately, our desire, if we would move material, is we would move it in a way that mission work goes with it versus just a storage location. I think from a standpoint of the folks in Idaho, if we are going to move material, we want to do it because there is a reason why, that there is real work going on, versus just security.

But in this case, the cost and the safety elements of the problem drove us to say, it doesn't make sense to invest \$300 million to serve as what I would call a way station, if you will, between Washington State and South Carolina.

Mr. SIMPSON. So what have you done with this committee and the money that has been appropriated for it?

Mr. D'AGOSTINO. Right now the money, it is \$14.7 million.

Mr. SIMPSON. Plus the \$5 million that keeps getting reappropriated from previous years.

Mr. D'AGOSTINO. My team has analyzed and thinks there are two things to do with it. One is, as a result of the Consolidated Appropriations Act of 2008, the resources required for us to do long-term stewardship, environmental stewardship, which is work at Lawrence Livermore, in Sandia, and Kansas City, had been cut in half. Some of that money we would like to put toward those activities, because ultimately we are subject to State fines by not meeting our environmental commitments if we don't put the resources there.

MATERIAL CONSOLIDATION

But two is, Idaho does have a role with material consolidation that we are doing at Sandia. There is some sodium debris bed-bearing material that we would move up to Idaho to join with the rest of the material that is in Idaho and invest in reprocessing capability to clean up this highly enriched uranium sodium debris-bearing material.

So I have, within the Department of Energy—I don't believe it has come up to Congress yet—we will probably have a request that comes up to ask the committees to consider this type of a change, in essence, a reprogramming to have it focused not on upgrading buildings that we don't think we need, that don't have direct mission attached to it, but on work that is associated with special nuclear material consolidation, similar kind of a need, mission need and upgrading and doing long-term stewardship.

Mr. SIMPSON. Are there other NNSA activities at Idaho that that money could be spent on?

Mr. D'AGOSTINO. I haven't looked into the details on that, but we can look and check before we send up the reprogramming.

Mr. SIMPSON. Like the D&D facility, which is supposed to be \$4.5 million, or the disposition of the highly enriched uranium at \$1.6 million? There are other activities out there.

Mr. D'AGOSTINO. Oh, absolutely. There is no question about it. It could be done.

Mr. SIMPSON. But you feel the ones at Los Alamos are more important?

Mr. D'AGOSTINO. Well, I don't think it is Los Alamos. It is Lawrence Livermore. We received 50 percent of the money we need to fulfill our commitments to our States on environmental steward-

ship. And if we don't put money there, well, we will lose money by paying fines.

Mr. SIMPSON. What are the fines?

Mr. D'AGOSTINO. Excuse me, sir?

Mr. SIMPSON. What are the fines?

Mr. D'AGOSTINO. It depends on the site. But it is on the order of \$7 million to \$12 million per year. It is in the million-dollar range, multimillion-dollar range. I would like to provide those numbers to you.

Mr. SIMPSON. Certainly, if you are going to ask for reprogramming of it, I would like to see what the details of it are.

Mr. D'AGOSTINO. Certainly. I would be glad to, sir.

Mr. VISCLOSKY. And if you could include in that information the fines, too, that would be terrific.

Mr. D'AGOSTINO. We will do that.

Mr. VISCLOSKY. Mr. Hobson.

MR. HOBSON'S OPENING STATEMENT

Mr. HOBSON. Thank you, Mr. Chairman.

I am sorry I was late. I was introducing a real hero at the Veterans Committee, a young man who was hurt in Iraq. There is a problem with the Defense Department and the coordination on eye injuries that are resulted from IED types of injuries. I apologize to everybody for being late.

Two things I would like to do. Are there any other Naval Academy graduates in here that want to stand up and be recognized for beating Notre Dame while we do that? Anybody? Any Notre Dame guys? Academy guys?

All right. I figured there was a guy over there too. Okay. I just thought you wanted to take credit.

Mr. VISCLOSKY. I congratulate all of the academies.

Mr. HOBSON. Ohio State won last night, if any of you missed that. Wrong tournament, but we won.

I would like to introduce three very important people in my life who are here today. Katie Nunner, Alex Nunner and Samuel Nunner, who are sitting in the back, are three of my seven grandchildren.

You guys stand up.

[Applause.]

They are a piece of work. And they are with grandpa or "Poppy" today, as I am called. We brought them to the hearing so they could experience what this is all about. I am not sure whether that is a good thing or not.

Thank you guys for being here. I have four questions I would like to get through, if we can. They relate to one of my favorite projects.

As you know, Congress explicitly moved the MOX project out of NNSA to the Office of Nuclear Energy, and the funding along with it. Your general counsel has made an interpretation that the NNSA Act precludes the transfer of project managers out of NNSA. So this project continues to be managed within the NNSA despite explicit direction from Congress to the contrary in a bill signed by the President of the United States.

This is one of those Alice in Wonderland moments I sometimes get in this job. Here we have you, the administration, telling us,

the Congress, that we can't do something because you have decided that we have told ourselves we can't do it even when it tells us we can. As Alice said, "I can't put it any more clearly, sir, because it isn't clear to me."

So let's go through a scenario. Is the Department's position that the NNSA Act prevents you from making this transfer? Do you believe the language in the act constrains what Congress in a bill signed by the President can transfer from NNSA or only constrains what the Secretary and the administration can move?

Mr. D'AGOSTINO. Mr. Hobson, as you probably know, I am not a lawyer, but I have been advised by my general counsel that the act prevents me from making this transfer.

I have stated that I am interested in working with the committee to figure out how we get to an appropriate accommodation.

MOX PROGRAM

Mr. HOBSON. Well, let me tell you, normally, in law, the last law is the law that prevails when you pass legislation. And so, is it the Department's position that the NNSA Act prevents you from making this transfer? I am sorry—is it correct that you do not dispute the ability of the Congress to move the funding from MOX out of NNSA? That the only real issue is the management of the MOX program?

Mr. D'AGOSTINO. I think the funding of the MOX program clearly has been moved out. We have requested it in the nuclear energy account. My general counsel tells me I can't move the management out. We want to make sure that whether it is through an economy act arrangement that we meet the intent of Congress and the committee to move that forward.

Mr. HOBSON. When we read the section 3212 of the NNSA Act, we do not find any mention of the constraint of the transfer of, quote, "management," unquote, of the program. The act language only references the transfer of functions vested by law in any organizational unit or component.

Again, is it your position that the NNSA Act does limit your ability to move the management of MOX from the NNSA to NE?

Mr. D'AGOSTINO. My position is informed by the Department's general counsel, which tells me I can't do that.

Mr. HOBSON. I guess the problem is, do you arrive at the conclusion from reading between the lines of the statutory text, or do you have supporting information from the authorizing committees that reveals the congressional intent behind this provision?

Mr. D'AGOSTINO. I haven't reached that conclusion. I am reaching it based on the advice I got yesterday from the Department's general counsel.

Mr. HOBSON. But you don't know how he is arriving at that?

Mr. D'AGOSTINO. I haven't seen the document that describes to me personally how he has arrived at that. This is something that came in last night.

Mr. HOBSON. You don't have any knowledge of any guidance from the Armed Services Committee provided to the NNSA regarding the transfer of MOX?

Mr. D'AGOSTINO. I don't have any specific guidance saying not to transfer the MOX, no, sir. I recognize there is a legal view that I

received from the Department's general counsel that says that the Department's organization act and the NNSA Act prevent the Secretary and I from transferring this project.

Mr. HOBSON. That is what I want to get to. It seems like neither the NNSA Act nor the 2008 omnibus specifically addresses the management of the MOX program in statutory language. So you have an apparent conflict between these two provisions. In general, as I said before, conflicts between statutory provisions are resolved in favor of the later-passed law.

In the case of MOX, the 2008 omnibus is later passed in the NNSA Act. Why have you not followed the general principle of statutory interpretation when resolving this apparent conflict? Because your general counsel doesn't know what he is doing, or he has taken a position that the administration wants?

Mr. D'AGOSTINO. No, the administration does not want one position or the other. I think what the administration is trying to do is make sure that we address this. First of all, we need to determine if I am statutorily allowed to make these types of changes and then, address the intent of Congress.

We leaned forward on this, Mr. Hobson, by making sure that we asked for, in fiscal year 2009, resources in the NE budget, because this is the part that was clear that we could do that, because we want to satisfy the intent of Congress.

The question of the actual day-to-day management of the project is something that is important for me. The question earlier that we had talked about, talking about sound project management, recognizes that the more things that are kept in limbo, the more difficult it is for the project.

Mr. HOBSON. Let me go to two other things, and they relate to this.

Is it your position that the funding and overall responsibility for the MOX project has been transferred to the Office of Nuclear Energy and the only remaining question deals with the transfer of existing management staff that presently work on the project?

And, secondly, does that mean that the Assistant Secretary Spurgeon is now the head DOE official responsible for the MOX project, as we intended?

Mr. D'AGOSTINO. Right now, because the resources are in the NE account that are requested currently in 2008 and requested in 2009 in the NE account, that Mr. Spurgeon is part of that management line responsibility. Right now, the day-to-day management, he gets supported by project managers that are currently in the non-proliferation program. But, ultimately, that chain of responsibility will start with the Federal project director, go to Mr. Spurgeon and go up to the acquisition executive, which is the Deputy Secretary of Energy.

Mr. HOBSON. And who is that now?

Mr. D'AGOSTINO. The Acting Deputy Secretary is Mr. Jeff Kupfer.

Mr. HOBSON. Okay. You never know, changing chairs.

I understand that you, as the NNSA Administrator, wrote a letter last week to the Chairman of the Defense Nuclear Facilities Safety Board asking the DNFSB to conduct a review of the red oil problem with the MOX plant and determine whether the appro-

appropriate safety features and controls have been incorporated to prevent or mitigate red oil explosions.

Frankly, it is good that somebody at DOE has finally awakened to this problem that we have raised and was raised. But I find it curious that you signed this request to the DNFSB. In fact, your letter states that the NNSA is constructing the mixed oxide fuel fabrication facility at the Savannah River site.

So the question again arises, who is responsible for the MOX plan, you or Assistant Secretary Spurgeon?

Mr. D'AGOSTINO. I am supporting Mr. Spurgeon right now, because, in essence, we have the corporate history on the MOX plant. The MOX team has been aware of concerns with red oil. That is why we have the design, particularly, that has been actually operating for over 20 years with no incidents or problems with red oil.

That is why we asked the Defense Board many years ago to put out their technical bulletin on what types of controls that we need to put in place. And, in fact, the Defense Board said, "As part of your design, you need to have certain technical controls in place."

Now that the design is essentially completed, it is entirely appropriate at this point to ask the Defense Board, "Hey, how did we do? Did we meet the intent of these control features? Are they adequately in this design?" We feel they are. The Nuclear Regulatory Commission feels they are. But this independent—what I would call completely independent check by the Defense Board, who are very technically competent—will give me and Mr. Spurgeon the comfort in knowing that this will not be an issue for this MOX plant.

Mr. HOBSON. One thing that troubled me, you said the Nuclear Regulatory Commission says you are in compliance?

Mr. D'AGOSTINO. The Nuclear Regulatory Commission is the regulator in charge of this particular facility from a regulation standpoint.

Mr. HOBSON. I understand. They said you are in compliance on the red oil?

Mr. D'AGOSTINO. They have looked at red oil—I am not sure if it is for this particular—I am not sure when that review actually happened. But I talked to the Chairman, Dr. Klein, a few weeks ago, and he told me personally that this is not an issue for the MOX plan at all. So he is very comfortable.

Mr. HOBSON. I am going to have a meeting with him, too, so I am going to talk to him about it.

Mr. D'AGOSTINO. Good. Yes, sir.

Mr. VISCLOSKEY. He told you that, but you don't have anything in writing from the NRC on that?

Mr. D'AGOSTINO. Not that I am aware of. I am sure that the MOX folks that do the MOX on a day-to-day basis probably have written NRC input on this. But Dr. Klein has told me his team has looked at this and is very comfortable with the project.

Mr. HOBSON. I think the review is still ongoing. I don't think it is final.

The other thing I want to get—if we have to subpoena it, maybe we have to—is the general counsel's opinion that tells you that you can't do what we think you should do and what we think the law says you should do.

Mr. D'AGOSTINO. Yes, sir.

Mr. HOBSON. We are going to challenge that, because I don't think that is correct. I mean, you can find a lawyer who is normally saying "no" to something you don't want. Getting somebody to say "yes" is a lot harder. Some guys are more in tune. I want to see it, because I don't believe it.

Mr. D'AGOSTINO. Okay.

Mr. HOBSON. If we have to penetrate the counsel's office or someplace else, to get somebody to rule on this we are going to do it.

The intent of Congress is here. We have had a problem with this agency and other agencies of this particular administration saying, "Well, we don't care what they say in the Congress. We are going to do what we want to do." Both this committee and the other committee I sat on, have asked every official to come forward. We have been a lot of places in this committee where they just thumb their noses at us because we don't count. Well, we are going to count. This Chairman is going to make sure we count. This committee is going to stand accounted.

The Chairman and I are in sync on this. We are not going to allow an administration to flout a law that they signed. Plus there is no signing letter I know. I hate those signing letters anyway. I think they are inappropriate and probably unconstitutional, if somebody challenges them at some point. I don't believe there is any signing letter on this. Hence, there is no reason, in my opinion, from a legal standpoint, that you can't do this. That is my position. I don't know what other people's positions are, but that is mine.

Thank you.

Mr. D'AGOSTINO. Right.

Mr. HOBSON. You are chirping what some lawyer is telling you. I happen to be a lawyer.

Mr. D'AGOSTINO. Well, Mr. Hobson, I want to assure you and Chairman Visclosky that we do not thumb our noses at the committee. We take this responsibility very seriously. I want to make sure the management is right. I want to make sure the project delivers on its performance baseline. To me, that is the most important thing, because we made a commitment on a cost schedule and scope. We, the Department have to deliver on that.

Mr. HOBSON. You guys, I have to tell you, are a better crew than some of the others that have been here. You have done a better job. And, Admiral, you have done a better job. We appreciate it. But we are frustrated, and we are going to keep kicking at the can.

Mr. D'AGOSTINO. I understand. And we will follow up with your request.

Mr. HOBSON. Sorry. I have to go to the Defense hearing on the supplemental now. Thank you.

[Mr. Hobson's written opening statement follows:]

OPENING STATEMENT

The Honorable David L. Hobson

Ranking Member, Energy and Water Development Subcommittee

House Committee on Appropriations

Hearing on Weapons Activities

April 2, 2008

Good morning, gentleman, and welcome back to the subcommittee. A year ago we had what I think was a valuable full-day hearing on weapons. For half a day we wrestled with the weighty conceptual issues before we heard your budget request. Top on everyone's mind were RRW and complex transformation.

I guess it really shouldn't surprise me that these issues haven't been resolved, since they are difficult questions that are critical to the security of the United States. But I am surprised at how uncomfortable I am with the Administration's handling of

them. You probably know by now that a couple of months ago my chairman and I questioned the Deputy Secretary of Defense about DoD's relationship with DOE. He was unaware that DOE actually paid for nuclear weapons production. I think it is fair to say that we were both shocked. This confirmed our suspicion that DoD has no reason to exercise restraint in its nuclear weapons requests to DOE when another agency has to bear the cost of those requests. For years, we have also been pushing the Administration to develop a rational approach to transformation of the DOE nuclear weapons complex. There, too, I have concerns about how the Administration is proceeding.

I say this because you have no more important responsibility than ensuring the stability of our nuclear forces and the effectiveness and security of our weapons complex. I understand the need for thinking along the lines of RRW – we're either going to support something like this, or we're going to have a larger, aging stockpile, probably leading us back to nuclear testing. And

complex transformation still needs to move forward, even if RRW stalls. But it needs to move forward toward a complex that is safer and more efficient...not a complex that simply preserves jobs in key States.

There is one other point I want to make, dealing specifically with the NNSA weapons labs. I truly value the national labs, but I have no patience with any laboratory that acts like it has a right to certain work. Unfortunately, many in the weapons labs, and their supporters in Congress, believe that they have some fundamental right to maintain their funding and staffing levels. If the funding for weapons activities goes down in the future, then they believe Congress somehow owes it to the weapons labs to make up the shortfall with work from other DOE programs, such as the Office of Science or the Office of Energy Efficiency and Renewable Energy. Well, this may shock some, but they don't have that right.

We have three DOE labs represented on this subcommittee, and all of those labs are facing some personnel reductions because of changing workloads and funding. The weapons labs are subject to these same variables, and they should do what every other DOE lab has to do — compete for new work based on the price and performance they can offer. I have to say that I don't think they compete very well today. To start, the weapons labs have some of the highest overhead rates within the entire DOE complex. Their cost and schedule performance is nothing to write home about. Last but not least, the NNSA Act makes these labs explicitly **not** subject to the authority, direction and control of anyone in DOE other than the Secretary or NNSA employees. In other words, the labs want a piece of the action from the Office of Science, but by law they cannot report to the Office of Science.

If I were running the Office of Science or one of the other non-NNSA program offices, I have to say that the NNSA weapons labs would not be my first choice. They would be my last choice.

They need to learn how to compete for work on the merits rather on political pull.

So I think we're all looking forward today to hearing your plans for dealing with these challenges. Gentlemen, I look forward to hearing your testimonies.

Mr. VISCLOSKY. Mr. Ryan.

Mr. RYAN. I am going to pass for now, Mr. Chairman.

Mr. VISCLOSKY. Okay. Mr. Calvert.

Mr. CALVERT. Thank you, Mr. Chairman.

LAWRENCE LIVERMORE

Mr. D'Agostino, I understand the budgetary pressures that are forcing significant workforce reduction over at Lawrence Livermore. The lab, as you know, played a critical role in creating and maintaining the modern U.S. nuclear deterrent, and certainly it maintains a significant peer-review status for unique research and development.

I wanted to ask a question: What these workforce reductions are going to do to peer review and nuclear research; what the impacts of the reductions at Lawrence Livermore—are they going to be able to sustain weapons expertise there? And what are we doing to stabilize the position at Lawrence Livermore to maintain some capability? And lastly, are there any other additional workforce reductions planned at Lawrence Livermore?

Mr. D'AGOSTINO. Mr. Calvert, thank you for your question. I would like to answer that and also provide the Deputy Administrator, who has direct responsibility, to add to that, if I could.

Mr. CALVERT. Sure.

Mr. D'AGOSTINO. Peer review is incredibly important for the program. We have undertaken a look at how to shape the workforce at each of our three laboratories to be forward-looking, future-focused, versus kind of rearward-focused, not just nuclear weapons but focus on the nuclear counterterrorism support to the Intelligence Community and nonproliferation.

It is the view of the lab director, Dr. Miller, that looking at reshaping his force right now makes the most sense. We have offered a voluntary, self-select early option for a number of folks to voluntarily leave with incentives so that we can start reshaping this workforce. As I understand it, we have about 215 people signed up to that.

AGING WORKFORCE

Mr. CALVERT. On that issue, I have been told anecdotally of the aging workforce and the significant difficulty in attracting new people to replace these highly trained individuals, and especially how we move that expertise onto this new generation of designers and researchers. Is that a problem?

Mr. D'AGOSTINO. It is something that we are looking at closely. We are working with the Defense Department on a study to look at the work that Hank Chiles—Admiral Hank Chiles is heading up that study to look at not just the NNSA workforce but the DOD workforce, delivery platforms and other things, how all these pieces tie together. And it is called a critical skills study.

And what is clear is that, not surprisingly, that the way you keep people interested in the work that they are doing is to give them real work to do. And so what we are focusing on is making sure that they are focused on providing deliverables to the Defense Department.

And what we have found out is that we have some real critical shortages in the NNSA. I will give you one example, probably is the best, is this area of nuclear forensics which is a capability that started off in the weapons program but has tremendous nuclear counterterrorism benefits. So, because we have stopped underground testing over 13 years ago, what we find—you know, that used to be the forcing functions to exercising radioanalytic chemistry skills. So, naturally, that workforce that was doing that capability is getting older, and it is hard to replenish that.

We have found that, to do nuclear forensics—in other words, to find out how nuclear material is moving around the world, to be able to track material and to be able to do predetonation analysis—we have to have that skill exercise. So George Miller and Mike Anastasio at Los Alamos are looking at how do we reinvigorate that particular skill set. So we don't need it for underground testing; that is fine. But we do need it for the future. We think this country will need it for many decades in the future.

Maybe if you want to talk a little bit about—because I know you have been talking with the lab director himself most recently.

GENERAL ROBERT SMOLEN'S OPENING STATEMENT

General SMOLEN. Mr. Chairman, gentlemen, first I would like to thank you. It is great to be here today. This is my first opportunity to testify before the committee. I did Air Force nuclear programs in another part of my life, and it is an honor to be with my colleagues here working these important issues.

I did, as a matter of fact, speak with George Miller on workforce issues as recently as last night. Let me assure you, sir, that one of the things that we are doing is taking a very hard look at where the expertise is and where we might be able to transition that.

Within the complex itself, certainly within the defense programs piece, I can speak to, but there are other areas of the complex as well where if there are reductions in personnel some of these individuals that have critical skills or very important skills could be utilized in other areas. George and I had that discussion about should we make those reductions, how could we mitigate that in some way by looking at other opportunities within the complex where people might have opportunities to serve.

It is a very difficult time with regard to the contract and the funding that we have associated with it, and so we do anticipate that there probably will be additional reductions across the complex.

The 20 to 30 percent that we estimated over time with complex transformation is a part of this as well. So we are just doing everything we can to make it that.

Mr. CALVERT. Would it be accurate to say that you would be increasing the workforce at Los Alamos or would that be a—

General SMOLEN. No, sir, I don't think I could determine that at this point because there are some decisions that still need to be made. So I couldn't really say.

LAWRENCE LIVERMORE LAB COSTS

Mr. CALVERT. While we are on Lawrence Livermore, the National Ignition Facility, did you know it has had significant budgetary problems? It should be online, I understand, later this year, or next year, I guess.

General SMOLEN. Yes, sir.

Mr. CALVERT. When you say online, is that going to be all lasers functioning? So will all the lasers have been installed?

General SMOLEN. I believe they will all be functioning by 2010 is the estimate.

Mr. D'AGOSTINO. Yes, it will be 2009.

General SMOLEN. 2009, 2010.

Mr. D'AGOSTINO. For full power, our commitment, and this is project management principles, that full power, to that first ignition experiment, our commitment is to get that done by 2010.

But, before you actually get to full power you want to demonstrate that all your lines, laser lines are working and synchronized and lined up appropriately. That will clearly be done, in fact, probably, certainly in 2009 and I think later on this year. But right now we have had, 144 beams actually up and operating right now, which is very close to the 192 total. So we are well under way on that.

One thing I might add, sir, on your question, George Miller has recognized that the laboratory, Lawrence Livermore Laboratory, needs to get its costs down in order to be able to provide services to the intelligence community because, appropriately, the other agencies that looked at the Department of Energy laboratories consider cost in their decision, which is a good thing, and we know that some of our customers are thinking that as costs go up they go off and look elsewhere to see how they are going to address their need.

So I know this may not provide comfort, but paradoxically, as George looks to shape his workforce and reduce his overhead costs, it will actually, he believes, and I believe, and Bob believes, drive more business appropriately from the other national security agencies to go get answers to their technical questions. Right now we do a lot of that, almost \$700 million worth of intelligence community support across the Department of Energy.

Mr. CALVERT. There is only one other place that could shift to; isn't that correct? I mean, if it is not at Lawrence Livermore it is going to shift over to Los Alamos.

Mr. D'AGOSTINO. Lawrence Livermore, but PNNL, for example. For strictly weapons information that is absolutely correct, sir. But a lot of capabilities, radiation detection work happens at PNNL up in Washington State. Argonne, Oak Ridge National Laboratories are big players as well in working together.

This is the thing we talked about earlier. For example, Sandia and Oak Ridge are working together on a computing effort because we wanted to make sure that we get the Office of Science work as well.

REACTORS

Mr. CALVERT. One quick question, Mr. Chairman, for the Admiral, the reactors that we are presently using on primarily submarines and aircraft carriers, do you see in the future that we may be moving toward putting reactors in other types of ships such as cruisers or other ships because of the fuel problems we are having?

Admiral DONALD. Yes, sir, there has been ongoing discussion inside the Navy. Obviously there was some legislation last year that was passed that placed some guidance in for future propulsion for larger surface ships, cruisers and above. Where the Navy is in that right now is going through an analysis of alternatives, typical acquisition, it is an acquisition requirement.

Part of that analysis of alternatives has been completed that looks at the ship type and the propulsion type, and there have been a wide range of propulsion types that have been looked at for the cruiser, the next generation of cruiser, including nuclear, non-nuclear and various configurations of each.

What has to be done before any decision would be made to go further with nuclear is that the Navy has to firmly define the warfighting requirements for the ship and the capabilities to deliver those requirements. Then you get into the engineering, and it is really associated with the radar and the combat systems, the missile systems and things of that sort that would need to be part of the capabilities of the ship.

Once you know that piece, then you can enter back into the propulsion and ship design and make an informed decision as to what do you really need. Do you need nuclear? Could it be satisfied with a conventional plant? That decision has not been made yet. We are not far enough along in the analysis of alternatives to do that.

Having said that, I would tell you we have done nuclear power cruisers before. We have had them in the Navy. They have all been inactivated. We are confident in our ability. If we are chosen, if our alternatives were chosen, we are confident in our ability to build it and to supply it for the Navy if it meets the needs of the Navy and the needs of the Nation. So we have done a good deal of work in that right now, and we are ready for the Navy's decision whatever that turns out to be, sir.

Mr. CALVERT. Thank you, sir.

Mr. VISCLOSKY. Mr. Berry.

Mr. BERRY. I will pass at this time, Mr. Chairman. Thank you, sir.

Mr. VISCLOSKY. Mr. Wamp, did you want another one?

Mr. WAMP. Yes, thank you.

FACILITY PROBLEMS

Mr. Secretary, you touched on 9212 just barely when talking about Oak Ridge and with the Defense Safety Board's recommendations. Just explain whatever your quandary must be on the administration not moving forward with the improvements, 9212, that are recommended?

Mr. D'AGOSTINO. Yes, sir. Thank you for the opportunity. The Defense Board has raised in a number of letters to me personally the concerns that they have with the facility. There are concerns

with their age, of course, the fact that there are potentially some upgrades we could do to beef up the seismic standards on the facility itself.

What the Defense organization program has done, is they have gone through that facility completely from stem to stern and put together a list of upgrades that if we were going to be in that facility forever, if you will, starting off with that as a foundation, what types of upgrades would have to happen? We have rank ordered them from highest risk to lowest risk and have the dollar elements associated with that. That is on one side of the equation.

The other side of the equation is, you know, the costs associated with the amount of risk and instead of investing those dollars and maintaining the past, this 150 acres of highly enriched uranium space that we want to collapse down to 15 acres or is it better to look towards the future, put those resources towards a UPF, uranium processing facility, for example.

There is a judgmental decision point that has to get made on while I am going to do these changes and upgrades, I am going to accept risk here and I lack those resources to go plan for the future. That balance, from a big picture standpoint that balance has been made.

The Board has appropriately the singular focus on nuclear safety, and they are very valuable to Bob and I on providing independent technical safety input. I use them as a tool. In effect, they help me because they are not coming directly from my organization, but they provide independent input.

We will have some disagreements most likely on whether we drew the line in the right spot, whether we should have gone up or down, whether we are accepting too much risk or not enough.

I am confident, but I get less confident as time goes on. I am confident that we drew that line in the right spot last year, but I am less confident as time goes on. These facilities are old. One way or the other, I don't think it is worth maintaining. I mean, I would rather move quickly to the future, which is a smaller complex of uranium activities and ultimately is going to be a much cheaper one.

Mr. WAMP. In a follow-up to that—and I have had conversations with Chairman Visclosky and when Mr. Hobson was chairman he was able to come down. I have invited Chairman Visclosky at some point just to see the footprint, because it is a World War II—

Mr. VISCLOSKY. I don't mean to correct my colleague inviting me to come, he told me I had to come.

Mr. WAMP. No, sir. No, sir.

Mr. D'AGOSTINO. I don't know if I am allowed to second that.

Mr. WAMP. If I told you, I said, please, and then said we invite you, sir.

But it is a World War II era site, and it is real obvious. When then Chairman Hobson came, the whole shrinkage issue became very real to him, that you have to do this because of just the incredible antiquation.

So that kind of leads me to one final question, and that is all these acronyms, IFDP stands for Integrated Facilities Disposition Plan, which is an Oak Ridge plan both at the Oak Ridge National Laboratory and at the Y-12 National Security Complex; two, effec-

tively shrink with your plan for missions and modernization taking the old facilities down. Because, I mean, you can build the new facilities, but if the old facilities are still your responsibilities and there, the maintenance costs are through the roof of maintaining old business whether they are being used or not, and there are just tons of them.

IFDP

So comment, if you will, on our plan for IFDP. That has to be squeezed in the middle of these missions as well and the missions, meaning new facilities for the missions and following the intel needs, you know, little things like design basis threat thrown on top of that and then all the complications of the new world that we live in. But IFDP is important for us, but it is not easy to fund.

Mr. D'AGOSTINO. That is right. I will comment on that and then I will ask Bob if he has anything to add.

One thing I would say is you hit the nail on the head on the last point. It is absolutely the right thing to do. It is a matter of looking at the resource requirements to take down these very large facilities, not just at Y-12 but obviously at Oak Ridge and the whole reservation. We want to do it, it is a matter of how do we do it in a flat budget and how do we reprioritize?

What I can tell you is this for the NNSA, outside of the Defense Programs budget, to make sure that people understood I was serious about reducing the size of the nuclear weapons complex and shifting it into a national security enterprise that is appropriately sized for the future, I carved out in the 2009 budget request about \$75 million to do a transformation disposition program. It is actually take down the buildings now type of an activity. You may have heard me talk about 600 buildings the DP organization has identified that need to be taken down across the complex. I have carved out \$75 million as part of our request to start working down that 600 building list and getting ourselves out of that.

Some of the expense on the IFDP has to do with process contaminated—some of the facilities are very expensive to take down because they have contaminated processes in them. Those, we have an agreement with the Environmental Management organization to figure out—and Jim Rispoli's organization to figure out how we do that balance between the two. Where do we draw the line between the two organizations? Because this is not about throwing the liability over the fence so I don't have to worry about it anymore. As long as the buildings are up, there are costs associated with that.

Mr. WAMP. General, do you want to add?

General SMOLEN. Sir, I would just add it is really correct. It is a resource issue associated with that along with some of the buildings and a variety of buildings that we have that are vacant that we could tear down, others that have environmental issues and will require a little more time. It is a little more complex to get those buildings down and that debris away.

Mr. VISCLOSKY. Thank you.

RRW

I am going to recognize Mr. Ryan in one moment. I do have a question I want to get to first and that is on advanced certification. As I think everyone understands, the committee and ultimately the Congress and the President who signed the bill into law zeroed out money for RRW.

In your statement today, Mr. D'Agostino, on page 7 you indicated under Defense Programs that the request also continues efforts called out in the explanatory statement referenced in section 4 of the omnibus bill to address issues raised in the recent JASON summer study of the feasibility of certifying RRW designs without nuclear testing.

Is NNSA spending money on studying the certification of the RRW design?

Mr. D'AGOSTINO. One thing I want to make clear, and I appreciate the opportunity to clarify, we have stopped all activities on the reliability replacement warhead. We put out a direction in very early January of this year, consistent with the omnibus appropriations to stop all activities after RRW.

In our request for fiscal year 2009, we appreciate the identification of the advanced certification line to address the certification questions, particularly those raised in the act which described addressing the questions that the JASON raised in their report on RRW.

What we are asking for in fiscal year 2009 is \$10 million—first of all, is money to continue on the advanced certification effort that was started in 2008 because we want to continue that activity.

Mr. VISCLOSKY. In general, advanced certification or advanced certification on RRW?

Mr. D'AGOSTINO. To answer, the general advanced certification question.

Mr. VISCLOSKY. Not on RRW?

Mr. D'AGOSTINO. Yes—well, the RRW line, if you will, that we are asking for.

Mr. VISCLOSKY. Is 2009?

Mr. D'AGOSTINO. In 2009, because what we don't want to do is play games. We want to be very clear that we think the committee's questions with respect to certification are the right questions to get answered, and we think to fully answer those questions there is some maturation of the RRW design that we would like to do in fiscal year 2009 to answer those questions raised in the JASON's report.

What that does is it allows us to fully answer the certification questions. It does not allow us to finish a phase 2 study on RRW.

Mr. VISCLOSKY. You are not spending any money in 2008?

Mr. D'AGOSTINO. On RRW?

Mr. VISCLOSKY. On RRW certification?

Mr. D'AGOSTINO. Right.

Mr. VISCLOSKY. Your request is for 2009.

Mr. D'AGOSTINO. Yes, we will talk to you about that, that is right. But in 2008 we are strictly staying away from the—the focus is to stay away from the RRW piece on the JASON's report on cer-

tification. They brought up some very good points in their report which I think the committee has asked us to answer.

It is a question of the need to do additional experiments to kind of understand failure modes, the need to figure out whether—what I would call generic surety features that could be added to an existing stockpile, how that might impact certification. Because I believe the committee's desire was to try to understand how do we stay away from, if you will—I may be putting words in the committee's mouth that I don't mean to—how do we stay away from building a new warhead but get some of the benefits, the enhanced safety and security benefits that we talk about on the RRW side. So that is the second element that the JASON's identified.

The third piece is how do these materials interact with each other, kind of over time.

The fourth is the peer review process improvements.

Mr. VISCLOSKY. I appreciate your answer, because, obviously, it is fair to ask for money for 2008, but just feel compelled to—I am sorry, for 2009. I feel compelled, and you tell me you are not spending any money on advanced certification in 2008 on RRW because the language is a new campaign, \$15 million, is the new campaign focus very narrowly on addressing the long-term scientific issues. And you have discussed some of those related issues to continued certification of the nuclear stockpile.

Mr. D'AGOSTINO. Right.

Mr. VISCLOSKY. Without underground testing and the scientific uncertainties identified by the JASON review. It was no RRW.

Mr. D'AGOSTINO. Right.

Mr. VISCLOSKY. I just wanted to make sure there wasn't any misunderstanding of that language. I appreciate your answering. Thank you, sir.

Mr. D'AGOSTINO. Right, if I could just add, what we wanted to do—we looked very closely at the language in the omnibus. I think it said existing stockpile. I don't know if it said future systems or not. I thought it might have said that. But what Mr. Ostendorff and I and Bob Smolen—when we looked at that we said we need to be very clear on our 2009 request and we need to be very clear on what we are doing in 2008.

In fact, that is why I signed a letter in January, which I would be very happy to provide, making it clear that I don't want any expenditures on RRW in 2008.

[The information follows:]

RELIABLE REPLACEMENT WARHEAD

The memorandum closing out Reliable Replacement Warhead activities at the National Nuclear Security Administration, dated January 4, 2008, is attached. The memo was supplied to the Committee on April 8, 2008.



Department of Energy
National Nuclear Security Administration
Washington, DC 20585



January 4, 2008

MEMORANDUM FOR DISTRIBUTION

FROM: ROBERT L. SMOLEN 
DEPUTY ADMINISTRATOR
FOR DEFENSE PROGRAMS

SUBJECT: Closeout of Reliable Replacement Warhead (RRW) Activities

The Omnibus Appropriations Act for Fiscal Year 2008 did not fund the National Nuclear Security Administration (NNSA) RRW program. NNSA will not spend any additional funds in continuation of the Phase 2A study in Fiscal Year 2008. Consistent with the December 20, 2007, letter from Contracting Officer Representative David H. Crandall, you are directed to cease all Reliable Replacement Warhead specific activities and expeditiously close out the RRW Phase 2A study. As of January 1, 2008, no Fiscal Year 2008 funds are to be expended on RRW. Closeout activity should be completed within three weeks.

If you have any questions, please contact Dr. David H. Crandall at (202) 586-0568, or Mr. Brian Hooper at (202) 586-0793.

cc: D. Crandall, NA-11
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Mr. VISCLOSKY. Because in your detailed justification, you did talk about an analysis being applied to the existing RRW 1 design to credit certification concepts and then continue that could be applied to a warhead-like extension. But again that is your 2009 request, as I understand it, the distinction; is that right?

Mr. D'AGOSTINO. That is right.

Mr. VISCLOSKY. Mr. Ryan.

Mr. RYAN. Thank you, Mr. Chairman.

WARHEADS

I have a warhead question and a couple of contractor questions. So in the first one maybe, General, you could answer as well. On the W78, then the notice isn't the warhead of the future—and you guys are asking for \$43 million to maintain the weapon. And if we keep it going until notional LEP in 2022 it is about \$700 million that we would spend without regard to inflation.

So this weapon has some deficiencies, seems like it is not the weapon of the future. If you had to drop a warhead out of the force, would this be on the short list?

General SMOLEN. No. Right now we have two weapons for Minuteman. So if we were to drop a warhead then that would leave us with the single warhead. So I don't think we would prefer to be in a single option.

Mr. RYAN. Are you in agreement with that?

Mr. D'AGOSTINO. Yes, I am. I think there are, just as there are with things that you keep around for long periods of time, aging issues that come up.

This warhead has some aging issue and thus we had this long-term plan. I know we are asking for a lot of money in 2009 right now just to maintain. But there is this view that if we have to keep this warhead well out into the future we will need to do some life extension. The specifics on the aging issue are classified, which I would be glad to share with you, sir.

But that is one of the reasons why—there are requirements that will come from the Defense Department. Generals Chilton and Cartwright essentially set the standard for what those requirements are. They think maybe there is a better way to not have to rebuild those Cold War warheads and maybe we can get by with fewer types of warheads. That reduces the impact on Bob's infrastructure that he has to maintain. So I think I would agree with that.

CONTRACTOR PERFORMANCE

Mr. RYAN. One of the issues we are trying to hammer away at the last few committee hearings is with contractor performance on some of these contracts. How does DOE in your mind institutionalize the knowledge of contractor performance across these different programs?

We have had scenarios where the best example is one of the key competitors for the Los Alamos and the Livermore contracts had substandard performance on non-NNSA contracts at Hanford and Nevada.

What are you guys doing as far as getting information on contractors who may not have met the performance levels and try to

prevent them from maybe getting contracts in the future, at least knowing about it beforehand?

Mr. D'AGOSTINO. Since I was the source selection official for one of those contracts, and I can say this. I wouldn't say this if I didn't think I could publicly.

Mr. RYAN. Unlike some of us.

Mr. D'AGOSTINO. No, no, I didn't mean to imply that at all. But I am familiar with the example that you cited, and without mentioning the company's name, I can tell you what we did. As a requirement of submitting a proposal, we ask the companies that submit proposals, I think in this case it was 5 years' worth of performance data.

In this case, I recognized that the performance data was only submitted as of the date that the proposal was submitted. In this case I think it was July, June of a couple of years ago, 2 years ago. But the decision was made about 6 months subsequent to that.

So what I did was I asked our procurement executives to go back and get me the most recent DOE decisions on all of the performance, contract performance, not just for the team that ultimately won, but for all of the bidders in this case—and there were only two bidders. I considered those, and they did change the score, the numerical score and ranking and made the decision a bit tougher. I will tell you honestly they made the decision a bit tougher.

But what sealed it for me was kind of the thing we talked about earlier, which is management and leadership, and it was clear to me that the management structure and the accountability chain and the winning proposal was outstanding and allowed me, as ultimately the lead shareholder of this corporation, if you will, representing the American people and accountability to you was that I had an ability, under the proposal that I selected, to be able to fairly strictly enforce performance expectations and reward and consequently punish behavior, if you will. I think some of the improvements we have over the past few years demonstrate that.

But I will tell you because of the problems at Hanford and some of the other sites it narrowed the scoring range a little bit. There is no question about it.

Mr. RYAN. So this information is coming beforehand?

Mr. D'AGOSTINO. Absolutely. The source selection official and the source evaluation boards, the officials and an individual on the board takes into consideration not just what the proposer submitted but also takes into consideration the recent grades that the Department has attributed to each of these particular contractors, and it did make it a tougher decision.

Mr. RYAN. Thank you, Mr. Chairman.

Mr. VISCLOSKY. I know Mr. Simpson and Mr. Calvert have quick questions. We may start voting soon.

If I could, I have two areas I would like to just briefly cover and then obviously we are going to have to go to the record here.

In October of 2006, the Department came up and they had Complex 2030.

In December, we received the vision for the future complex, and it now talks about 2017.

The broad question I have is 2017, if you would, knowing that this continues to be an evolutionary process, and there is no end-

point per se, but is 2017 now the end and you have essentially shaved off 13 years?

Mr. D'AGOSTINO. I will answer that, and if General Smolen has anything to add it is okay if he would add that. The Complex 2030 was an unfortunate title, in my view, now looking back on it.

Mr. VISCLOSKY. I am not attributing it to you because it was someone else who came up with it.

Mr. D'AGOSTINO. Well, but it was my responsibility, so I made that decision.

Mr. VISCLOSKY. We are aware today—

Mr. D'AGOSTINO. Right. I think what the 2030 actually represented—not the change in the complex, but actually the stockpile itself—recognizing that we felt that we included changing the whole stockpile over at that time to have a much smaller, much more focused stockpile.

So actually the infrastructure changes that we had in place in that 2030 vision was largely going to be done by the 2020 time-frame, if you will, late 2017. So what we felt, we recognized, and I think you have been very clear about, well, we can't wait 20 years to do something, that the majority of the success of the program in setting out that right path is going to happen in the next 10 years and has to be set in the next 10 years.

Mr. VISCLOSKY. Could I, because I want to be fair to my colleagues on time, and it is not out of interest in this case, because it is a huge point here, if you can provide to us, if you would, in some fashion, and we can talk at the staff level, because I don't want to put you to any extra work, but just so I have a clear understanding myself, in a rather simple fashion on an annual basis what it looks like in 2030 what it looks like in 2017, so I am certain in my mind what we are now looking at?

Mr. D'AGOSTINO. Absolutely. We will be glad to provide that.

[The information follows:]

**Complex Transformation Changes
(including changes proposed in the Preferred Alternative of the Draft Supplemental
Programmatic Environmental Impact Statement)**

	Change Between Now and 2017	Change Between 2017 and 2030
Los Alamos National Laboratory	<p>Center of Excellence for Nuclear Design and Engineering enhanced by:</p> <ul style="list-style-type: none"> • Plutonium Center for plutonium pit manufacturing and research and development (R&D) at TA-55 • Detonator production and contained high explosives (HE) R&D • Materials research as potential science magnet • Supercomputing platform host site <p>Changes:</p> <ul style="list-style-type: none"> • Special nuclear material consolidated to two sites, with only one requiring Category I/II levels of security. • 50% reduction nuclear operations footprint. • 20% reduction total building footprint (~2 million gross square feet (GSF) reduction including CMR (570K GSF); Technology Complex (380K GSF); and Main Admin Bldg (309K GSF). • Over next decade or so, up to 20% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	<p>Changes:</p> <ul style="list-style-type: none"> • Completion of a Chemistry & Metallurgy Research Replacement (CMRR) - Nuclear Facility • Planned addition of Matter-Radiation Interaction in Extremes facility

Lawrence Livermore National Laboratory	<p>Center of Excellence for Nuclear Design and Engineering enhanced by:</p> <ul style="list-style-type: none"> • HE R&D with High Explosive Applications Facility as Center for formulation, processing, and confined testing (<10kg) • High Energy Density Physics with National Ignition Facility as science magnet • Supercomputing platform host site <p>Changes:</p> <ul style="list-style-type: none"> • Category I/II quantities of special nuclear material removed from site by end of 2012 and downgrading of “Superblock” buildings 332 & 334. • 90% reduction in acreage supported by Weapons Account with status change for Site 300. • 30% reduction in buildings and structures supported by Weapons Account. • Over a decade or so, up to 20% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	
Nevada Test Site	<p>Center of Excellence for High-hazard Experiments enhanced by:</p> <ul style="list-style-type: none"> • Large-scale, (confined and open-air) high explosive testing (>10 kg) with Big Explosives Experimental Facility • Hydrodynamic testing 	

	<p>Subcritical and plutonium experiments with U1A and Joint Actinide Shock Physics Experimental Research</p> <ul style="list-style-type: none"> • Criticality experiments and special nuclear material operations at the Device Assembly Facility <p>Changes:</p> <ul style="list-style-type: none"> • Few changes to site infrastructure as currently planned, however: <ul style="list-style-type: none"> • Control Point 1 decommissioned • Facility operations transferred to NSTec • Over next decade, up to 20% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	
Pantex	<p>Center of Excellence for Assembly/ Disassembly; HE Production & Machining enhanced by:</p> <ul style="list-style-type: none"> • Non-destructive weapon/ pit surveillance with existing Weapons Engineering and Testing Lab and new Weapons Surveillance Facility • Updated facilities and disposition of substandard buildings and structures • Consolidation of special nuclear materials. <p>Changes:</p> <ul style="list-style-type: none"> • Potential closure of the Zone 4 storage area by consolidation of special nuclear material into Zone 12. • 45% reduction in high security perimeter. 	

	<ul style="list-style-type: none"> • 25% reduction in total building footprint. • Over next decade or so, up to 5% to 10% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	
Sandia National Laboratories	<p>Center of Excellence for Non-Nuclear Design and Engineering; Major Environmental Testing enhanced by:</p> <ul style="list-style-type: none"> • Microelectronics & Engineering Science Applications (MESA) complex as engineering magnet • Weapons environmental testing facilities • Energetic devices R&D with Explosives Test Facility • Neutron generator design and manufacturing facilities <p>Changes:</p> <ul style="list-style-type: none"> • Category I/II special nuclear material removed in 2008. • Transition SNL/CA (410 acres) to multi-agency lab to reduce NNSA landlord costs. • Revised flight testing strategy for gravity weapons that opens Tonopah Test Range (179,000 acres) for other uses. • Over next decade or so, up to 20% reduction staff supporting nuclear weapons activities. These reductions are expected through natural attrition and 	

	transfer of personnel to other positions supporting essential national security needs.	
Savannah River Site	<p>Center of Excellence for Operations involving large quantities of Tritium enhanced by:</p> <ul style="list-style-type: none"> • Tritium production, R&D, and supply management facilities • R&D to support gas transfer system design <p>Changes:</p> <ul style="list-style-type: none"> • Few immediate changes to site infrastructure as currently planned. • Over next decade, up to 5% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	
Y-12 National Security Complex	<p>Center of Excellence for Uranium and Canned Subassemblies enhanced by:</p> <ul style="list-style-type: none"> • Highly Enriched Uranium (HEU) storage and component manufacturing facilities • Non-HEU component manufacturing facilities. <p>Changes:</p> <ul style="list-style-type: none"> • Completion and use of Highly Enriched Uranium Materials Facility • Special nuclear material consolidated: <ul style="list-style-type: none"> • 90% reduction high security area • 60% reduction nuclear operations footprint 	<p>Changes:</p> <ul style="list-style-type: none"> • Completion of Uranium Processing Facility • Completion of a Consolidated Manufacturing Complex Facility

	<ul style="list-style-type: none"> • 50% reduction total building footprint (~3.1 million GSF gone including Production Bldg 9201-05 (613 GSF); Production Bldg 9212 (440K GSF); Production Bldg 9204-04 (313K GSF)) • Over next decade or so, up to 20% to 30% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	
Kansas City Plant	<p>Center of Excellence for Non-Nuclear Production enhanced by:</p> <ul style="list-style-type: none"> • Updated non-nuclear component manufacturing facility • Expanded outsourcing of components <p>Changes:</p> <ul style="list-style-type: none"> • Proposed implementation of Kansas City Responsive Infrastructure and Manufacturing Sourcing (KCRIMS): • 67% reduction of the building footprint funded by NNSA's weapons account • 15% increase of the component outsourcing percentage <p>Over a decade or so, up to 30% fewer staff supporting nuclear weapons activities.</p>	

Mr. VISCLOSKY. The other question—and it would be for the record—and I realize definitions are important too because he had an interchange with Mr. Calvert on NIF. As you are quite familiar, last year I had my list on stockpile stewardship and major construction, which included NIF, MESA, DARHT and the advanced computational cells.

If you could, for the record, on NIF, MESA and on DARHT, we had asked and made observations about the original estimates, this is data placement of the budget and what those current estimates are, and also you clearly explain to the committee what your definition of the end is.

Mr. D'AGOSTINO. Right.

Mr. VISCLOSKY. I notice that with NIF, for example, it was March of 2009, but definitely as one of the last lasers in place is it 2010, is it 2009, just so I have a sense.

Mr. D'AGOSTINO. Absolutely.

Mr. VISCLOSKY. Along that line on DARHT, and I would end mine on this, is that second axis is not yet completed that is to be completed. Is there any plan on, if you would, constructing a new DARHT system in some future date?

Mr. D'AGOSTINO. I can answer that now or for the record.

Mr. VISCLOSKY. Just if you could answer that question and then if you would like to supplement it for the record.

Mr. D'AGOSTINO. Certainly I would like to supplement for the record.

[The information follows:]

DUAL AXIS RADIOGRAPHIC HYDRODYNAMIC TEST (DARHT) FACILITY

As our budget planning covers only the next five year (2010 – 2014) period, we do not have any funds allocated to the next generation of DARHT type machine. If and when the time arrives that we determine the need to plan for consolidating hydrotesting at the Nevada Test Site, we will follow our established planning and budgeting process and work with Congress to fund the acquisition of the potential system.

NEW CAPITAL INVESTMENTS

National Ignition Facility (NIF): NIF will provide the only access to thermonuclear burn conditions for the U.S. nuclear weapons program. Experiments in this regime are vital to maintaining the U.S. nuclear weapons stockpile in the absence of underground nuclear testing. In particular, NIF is uniquely suited to provide access to the physical phenomena of ignition and thermonuclear burn which is at the heart of nuclear explosions and the most important remaining question in weapons physics.

Congressional line item construction began in Fiscal Year (FY) 1996, and early experiments utilizing a portion of the laser system have already begun. Important data relevant to weapons issues have been obtained in these experiments. Operation of NIF at full capability is projected for the second quarter of FY 2009, with \$57 million required for the completion of the NIF Project in FY 2009. The original Critical Decision (CD)-4 (Approve Start of Operations) for the NIF Project occurred in the third quarter of FY 2002. There are two reasons for the slippage. The first occurred during title one design review of the NIF Project when additional functional and technical capabilities, such as not to preclude direct drive and a second target chamber plus some other technical enhancements, were added to the NIF Project design criteria. The second was attributed to the underestimation of the original NIF Project contingency and the complexity of the unique infrastructure design that necessitated the assembly and installation of the laser system in an ultra-clean environment. These changes plus the requirement to limit the annual funding to no more than \$150 million a year caused the NIF Project to be extended for an additional four years to the fourth quarter of FY 2008. In FY 2005 the NIF Project received a directed change from Congress through the decrease in funding authority during FY 2005. This change added an additional \$54 million and six months to the NIF Project completion date.

Assuming a 30 year life, the projected life cycle cost was approximately \$5.7 billion in FY 2008 dollars. The current life cycle costs are projected to be \$7.8 billion in FY 2008 dollars. The main reason for the cost changes are the construction costs of the NIF Project. No changes to the life cycle costs are attributed to the operations of the NIF in the projected 30 year operating period from commencement of operations in 2010. The NIF Laser System is intended as a long term national capability. There is no plan for its shutdown.

Dual Axis Radiographic Hydrodynamic Test (DARHT) Facility: The project for the 2nd axis of DARHT included the second electron beam accelerator which was to be installed in the second accelerator hall. The second machine, necessary to complete the essential dual-axis configuration of the facility, was being built in a sequential manner, allowing it to take advantage of engineering and scientific advances that have occurred since construction of the first machine. The Total Estimated Cost (TEC) of capital portion was \$154 million. Physical construction was completed on time (fourth quarter of FY 2002), and the project received approval to start operations (CD-4) in the second quarter of FY 2003. CD-4 was approved by the Deputy Secretary of Energy as the Secretarial Acquisition Executive for DARHT project.

In April 2003 the project team initiated the startup operation process for the DARHT 2nd axis. During the startup process, the injector cells and accelerator cells began experiencing high voltage breakdowns at voltages below their design levels that needed to be resolved for the cells to meet the design intent. The National Nuclear Security Administration (NNSA) initiated the DARHT 2nd Axis Refurbishment and Commissioning Project (heretofore referred to as Refurbishment) in FY 2004. The project TEC is \$60.953 million and the Total Project Cost (TPC) is \$89.8 million, with a completion date of the third quarter of FY 2008.

As of the end of March 2008, the project has completed all its major milestones and the project completion, CD-4b (all refurbished components will be in place and full beam energy and performance will be attempted for the first time), is scheduled to be approved by the end of April 2008. DARHT will be fully operational by the end of 2008. The design life for DARHT is expected to be 30 years from the full operational date.

Microsystems and Engineering Sciences Applications (MESA) Project: In FY 2001, the TEC range for MESA of between \$350 million to \$400 million was a rough-order-of-magnitude estimate, based on the pre-conceptual design. FY 2003 was the first time construction funds for the project were included in the President's budget, which showed the TEC to be \$453 million, the TPC, (which include both the capital and expense costs) to be \$504 million, and showed the physical construction completion to be the fourth quarter of FY 2009. However, these cost estimates and completion date were based on the as-yet-not approved performance baseline.

After an external independent review team validated the project performance baseline, the performance baseline for the project was approved on October 8, 2002, by the Secretary of Energy. The approved project performance baseline, which first appeared in the FY 2004 President's budget, was: TEC: \$462.5 million; TPC: \$518.5 million; and physical construction completion in the third quarter of FY 2011. Due to Congressional action, the funding for MESA was accelerated, and the project will be completed in the fourth quarter of FY 2008 with significant cost savings due to the accelerated schedule and reduced costs for some of the MESA components. MESA will be in full operations in FY 2009, and the design life is expected to be 30 years from that date.

	Original Cost Projection *	Current Cost Projection *	Growth
NIF	\$1,046 M	\$2,095 M	\$988 M
DARHT (Both Axes)	\$259.7 M	\$320.7 M	\$61.0 M
MESA	\$462.5 M	\$450 M (est.)	Savings of \$12.5 M

*Defined as TEC

The DARHT second axis has been tested. We are doing the final acceptance of the criteria and should have that done in the next few weeks.

Mr. VISCLOSKY. I understand it is working.

Mr. D'AGOSTINO. It is actually working, it is actually quite incredible, 1 billion electron volts are shooting down there, and it is just fantastic. We should get that done in the next few weeks and we should be up and operating the shots.

Our plan is to fully utilize the DARHT facility. We expect a utilization to go out to the 2025, if not later, timeframe. We don't have, and the idea is if we do have to build out in the future, more to an additional hydro test capability we would probably not do it at Los Alamos. We would do it at the Nevada Test Site. There is nothing in our budget request.

Mr. VISCLOSKY. So you have no money in 2009 to even begin down that road, because my upset is we are not quite done.

Mr. D'AGOSTINO. Right.

Mr. VISCLOSKY. Haven't at least talked and so there is no money in 2009.

Mr. Calvert or Mr. Simpson.

Mr. CALVERT. I will just submit mine for the record, Mr. Chairman.

Mr. VISCLOSKY. Okay.

NNSA CLEANUP COSTS

Mr. SIMPSON. In your conversations with Congressman Wamp talking about the cleanup liabilities that NNSA has and the transfer of those liabilities to EM, do you have an estimate of what the total long-term liabilities are at NNSA in terms of cleanup?

Mr. D'AGOSTINO. We don't have it to the degree that I feel comfortable calling it a budget quality estimate. We understand the buildings that we want to take down.

We are working on an arrangement with the EM organization to say, we think, who is going to take down what.

Mr. SIMPSON. Will there be an attempt to transfer those liabilities to EM? The reason I asked this is NE has liabilities that are at different sites, NNSA has liabilities that are at different sites that are truly EM issues, and it is all one government.

I would like to have the cleanup liabilities that Environmental Management is responsible for under Environmental Management rather than the different programs out there.

Mr. D'AGOSTINO. I think that is right. I think some of the cleanup, and this goes back to the chairman's statement on definitions, my view of cleanup when I tear down any nonprocess contaminated building I don't need the EM to do that because it is a bulldozer and dump truck type of work and can be done for fairly little money, doesn't require EM expertise. I don't want to transfer that over to EM because I think that is my responsibility to clean up my own mess.

EM clearly has the expertise, the project management expertise, they have been doing this for a while. We don't want to transfer—we want to transfer those types of liabilities appropriately over to Jim Rispoli, but we are not done yet with having this down to a

point where I feel comfortable. It is certainly not ready for prime time, sir.

Mr. SIMPSON. I appreciate that.

Mr. VISCLOSKY. Would you yield to me for one second?

Mr. SIMPSON. Sure.

Mr. VISCLOSKY. I have the 600 buildings in my mind and there is no notation about transfer responsibility or removal. If you could enumerate for the record because transfer is not the end—and I guess that is why we are having the conversation—is enumerate more clearly than the 600 and actually who and what gets transferred, what actually comes down with the 2009 request?

Mr. D'AGOSTINO. We will be glad to do that. We have a specific list and an allocation process we will be glad to describe to you and the staff.

[The information follows:]

COMPLEX TRANSFORMATION (600 BUILDINGS)

The list of 600 facilities is based on pre-decisional planning information. There are a number of mission dependent and cross cutting activities that must be completed before this list of facilities and structures can be finalized for disposition and budget planning. After the Record of Decision for the Complex Transformation Supplemental Programmatic Impact Statement in late Fiscal Year (FY) 2008 is issued, the sites will begin the detailed planning to support the future facility disposition actions. A large number of the facilities/structures would become available for planning and disposition starting in FY 2010 with the bulk of the 600 assets being dispositioned between FY 2010 and FY 2015. Some facilities would not become available (excess) until a replacement facility is constructed prior to declaring the current facility excess. Some facilities will be transferred to a new landlord. Excess facilities that are not contaminated will be the National Nuclear Security Administration's (NNSA) responsibility; those facilities contaminated with special nuclear materials will be the Office of Environmental Management's responsibility.

Disposition of Building C922, an office building at Sandia National Laboratories (California), is included in the NNSA FY 2009 budget request as part of the Transformation Disposition program. The building is 12,339 gross square feet and \$350,000 (Total Estimated Cost) is requested for Disposition.

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Site	Building ID	Building Description	Building Footprint Square Feet
Kansas City Plant	01	Manufacturing Bldg	1,751,740
Kansas City Plant	02	Main Office Building	240,500
Kansas City Plant	05	West Boiler House	50,777
Kansas City Plant	09	East Employee Entrance	1,889
Kansas City Plant	13	Manufacturing Support Bldg	132,545
Kansas City Plant	14	Four Experimental Test Cells	39,982
Kansas City Plant	15	Polymer Building	17,300
Kansas City Plant	16	Kinematics	5,354
Kansas City Plant	31	Air Monitoring Building	208
Kansas City Plant	32	Central Guard Post	1,134
Kansas City Plant	46	Unfinished Test Cell	9,870
Kansas City Plant	47	North Employee Entrance	1,525
Kansas City Plant	48	East Power House	12,875
Kansas City Plant	54	High Power Lab	31,746
Kansas City Plant	59	Waste Management Building	23,135
Kansas City Plant	68	Storage Shed	576
Kansas City Plant	73	Solid Waste Disposal	8,771
Kansas City Plant	74	Production Storage	25,783
Kansas City Plant	75	Security Supv Control	2,708
Kansas City Plant	76	Explosive Sig Bunker	150
Kansas City Plant	77	Oil Storage	2,389
Kansas City Plant	78	East Guard Post	459
Kansas City Plant	79	West Guard Post	240
Kansas City Plant	80	North Guard Post	516
Kansas City Plant	86	North Wing Lab	27,655
Kansas City Plant	87	Test Cells	116,319
Kansas City Plant	88	Pump & Casing	35,885
Kansas City Plant	89	Fire Protection Pump House	1,904
Kansas City Plant	90	Mold Heating & Cooling	2,400
Kansas City Plant	91	Plating Building	32,307
Kansas City Plant	92	Building 92	225,260
Kansas City Plant	93	Northeast Guard Post	191
Kansas City Plant	94	Northeast Guard Post	240
Kansas City Plant	96	Special Process Building	12,815
Kansas City Plant	98	Ind Wastewater Pretreatment	19,612
Kansas City Plant	99	Receiving & Shipping Security Post	303
Kansas City Plant	01-B	Receiving Dock	3,650
Kansas City Plant	01-C(85)	Main (West) Sizinggear	2,400
Lawrence Livermore National Lab	331	TRITIUM FACILITY	28,492
Lawrence Livermore National Lab	334	HETB	10,652
Lawrence Livermore National Lab	332	RU FACILITY	104,687
Lawrence Livermore Site 300	803	EPD/ROAD STRG WRHS	1,440
Lawrence Livermore Site 300	805	INERT MACHNG/EXPLVS WST PACKNG	6,802
Lawrence Livermore Site 300	807	HE MACHINING	1,575
Lawrence Livermore Site 300	813	CHANGE HOUSE	2,810
Lawrence Livermore Site 300	816	EXPLUSE WASTE STRG FAC	1,000
Lawrence Livermore Site 300	821	CHEMISTRY STORAGE	454
Lawrence Livermore Site 300	825	CHEM PROCESS FACILITY	1,323
Lawrence Livermore Site 300	826	CHEM PROCESS FACILITY	1,678
Lawrence Livermore Site 300	837	OTED STORAGE	1,016
Lawrence Livermore Site 300	850	FIRING FACILITY	5,095
Lawrence Livermore Site 300	850	SITE 300 FIRE STATION	6,752
Lawrence Livermore Site 300	855	EPD/ROAD OFFICE	363
Lawrence Livermore Site 300	806A	HE MACHINING	3,408
Lawrence Livermore Site 300	806B	HE MACHINING	4,074
Lawrence Livermore Site 300	806C	MACHINING STORAGE	640
Lawrence Livermore Site 300	806D	MACHINING STORAGE	192
Lawrence Livermore Site 300	806A	HE PRESSING	2,570
Lawrence Livermore Site 300	809B	MECHANICAL SUPPORT	734
Lawrence Livermore Site 300	809C	HE OVEN FACILITY	716
Lawrence Livermore Site 300	810A	HE ASSEMBLY	3,311
Lawrence Livermore Site 300	810B	HE ASSEMBLY	884
Lawrence Livermore Site 300	810C	ASSEMBLY STORAGE	884
Lawrence Livermore Site 300	817A	HE PRESSING CONTROL ROOM	417
Lawrence Livermore Site 300	817B	HE PRESSING CELL	639
Lawrence Livermore Site 300	817D	HE PRESSING STORAGE	185
Lawrence Livermore Site 300	817E	HE PRESSING-INACTIVE	183
Lawrence Livermore Site 300	817F	HE PRESSING OVENS	585
Lawrence Livermore Site 300	817G	HE PRESSING BOILERS	217
Lawrence Livermore Site 300	817H	HE PRESSING INERT STORAGE	859
Lawrence Livermore Site 300	823A	LINAC RADIOGRAPHY	1,020
Lawrence Livermore Site 300	823B	LINAC RADIOGRAPHY	1,725
Lawrence Livermore Site 300	827A	CHEMISTRY BLDG	4,489
Lawrence Livermore Site 300	827B	SERVICE SHOP	871
Lawrence Livermore Site 300	827C	CHEM PROCESS FACILITY	3,222
Lawrence Livermore Site 300	827D	CHEM PROCESS FACILITY	4,575
Lawrence Livermore Site 300	827E	CHEM PROCESS FACILITY	3,222
Lawrence Livermore Site 300	834A	THERMAL TEST FACILITY	1,674
Lawrence Livermore Site 300	834B	STORAGE	680
Lawrence Livermore Site 300	834C	STORAGE	680
Lawrence Livermore Site 300	834D	STORAGE	1,526
Lawrence Livermore Site 300	834E	THERMAL TEST FACILITY	1,040
Lawrence Livermore Site 300	834F	STORAGE	695
Lawrence Livermore Site 300	834G	THERMAL TEST FACILITY	535
Lawrence Livermore Site 300	834H	THERMAL TEST FACILITY	1,040
Lawrence Livermore Site 300	834J	STORAGE	528
Lawrence Livermore Site 300	834L	STORAGE	1,080
Lawrence Livermore Site 300	836A	DYNAMIC TEST FACILITY	2,164

Note: The final list is dependent on decisions informed by the Complex Transformation Supplemental Programmatic Impact Statement. This list is in a preliminary stage of analysis and still needs to be worked with the nuclear weapons complex plants and laboratories.

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Site	Building ID	Building Description	Building Footprint Square Footage
Lawrence Livermore Site 300	836B	STORAGE FACILITY	4,429
Lawrence Livermore Site 300	836C	DYNAMIC TEST FACILITY	2,895
Lawrence Livermore Site 300	836D	DYNAMIC TEST FACILITY	3,405
Lawrence Livermore Site 300	855A	HE MACHINING	685
Lawrence Livermore Site 300	855B	HE MACHINING	637
Lawrence Livermore Site 300	855C	HE MACHINING	612
Lawrence Livermore Site 300	OSM45C	ENTR BURN PAD	-
Lawrence Livermore Site 300	OSM10	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM15	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM2	HE WASTE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM3	HE WASTE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM33	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM36	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM4	HE WASTE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM5	HE WASTE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM51	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM80	M80 READY VAULT	-
Lawrence Livermore Site 300	OSM817C	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM82	MAGAZINE - STORAGE	-
Lawrence Livermore Site 300	OSM83	M83 READY VAULT	-
Lawrence Livermore Site 300	OSM834M	HE STORAGE	-
Lawrence Livermore Site 300	US49	COMM RADIO TRANS	-
Lawrence Livermore Site 300	U849A	COMM RADIO TWR CNTRL BLDG	-
Lawrence Livermore Site 300	U849B	COMM TWR GENERATOR BLDG	-
Lawrence Livermore Site 300	U849C	COMM RADIO TWR CNTRL BLDG	-
Lawrence Livermore Site 300	834K	PUMP STATION	547
Lawrence Livermore Site 300	856	VACANT	1,484
Lawrence Livermore Site 300	854A	VACANT	2,458
Lawrence Livermore Site 300	858A	VACANT	665
Lawrence Livermore Site 300	824	HE STORAGE FACILITY	294
Lawrence Livermore Site 300	848	WEATHER STATION	764
Lawrence Livermore Site 300	859	STORAGE	1,440
Lawrence Livermore Site 300	860	STORAGE	313
Lawrence Livermore Site 300	867	BUNKER SUPPORT FACILITY	4,342
Lawrence Livermore Site 300	870	OFFICE	3,890
Lawrence Livermore Site 300	871	ADMINISTRATION	7,929
Lawrence Livermore Site 300	874	MECHANICAL SHOPS	19,972
Lawrence Livermore Site 300	877	COMPUTER TECH. SUPPORT	3,302
Lawrence Livermore Site 300	892	CENTRAL CONTROL POST	684
Lawrence Livermore Site 300	15AL	ACCELERATOR	-
Lawrence Livermore Site 300	801A	FIRING FACILITY(FXR)	44,263
Lawrence Livermore Site 300	801B	TECHNICAL MAINTNCE SHOP	786
Lawrence Livermore Site 300	801D	ADMINISTRATION	4,532
Lawrence Livermore Site 300	812A	FIRING FACILITY	2,283
Lawrence Livermore Site 300	812D	LABORATORY	241
Lawrence Livermore Site 300	812E	LABORATORY	1,269
Lawrence Livermore Site 300	818A	HE STORAGE FACILITY	1,244
Lawrence Livermore Site 300	818C	HE STORAGE FACILITY	576
Lawrence Livermore Site 300	832A	STORAGE	561
Lawrence Livermore Site 300	832C	STORAGE	325
Lawrence Livermore Site 300	832E	MM OFFICE/SHIP&RECEIVE	1,584
Lawrence Livermore Site 300	851A	FIRING FACILITY	12,996
Lawrence Livermore Site 300	851B	MACHINE SHOP	1,005
Lawrence Livermore Site 300	851C	FABRICATION SHOP	662
Lawrence Livermore Site 300	874A	STORAGE	308
Lawrence Livermore Site 300	874B	STORAGE	308
Lawrence Livermore Site 300	OSM12B	STORAGE	-
Lawrence Livermore Site 300	OSM12C	STORAGE	-
Lawrence Livermore Site 300	OSM12P	MITIGATION POND	-
Lawrence Livermore Site 300	OSM96A	EAST OBSERVATION POST	-
Lawrence Livermore Site 300	OSM97	WEST CONTROL POST	-
Lawrence Livermore Site 300	OSM86	WEST OBSERVATION POST	-
Lawrence Livermore Site 300	OSM1	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM21	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM22	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM23	MAGAZINE - STORAGE VAULT	-
Lawrence Livermore Site 300	OSM24	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM30	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM31	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM32	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM34	MAGAZINE-HE CUBCL STRGE	-
Lawrence Livermore Site 300	OSM35	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM37	MAGAZINE-HE CUBCL STRGE	-
Lawrence Livermore Site 300	OSM38	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM41	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM52	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM7	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM70	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM71	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM72	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM8	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM832B	EXPLOSIVES STORAGE	-
Lawrence Livermore Site 300	OSM832D	HE SHIPPING AND RECEIVING	-
Lawrence Livermore Site 300	OSM844H	MAGAZINE STORAGE	-
Lawrence Livermore Site 300	OSM854V	STORAGE	-
Lawrence Livermore Site 300	OSM957	MAGAZINE STORAGE VAULT	-
Lawrence Livermore Site 300	OSV822AD	CONTRL. MTL8-STRG VAULT	-
Los Alamos National Laboratory	11-0001	Storage Bldg	818

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Site	Building ID	Building Description	Building Footprint Square Feet
Los Alamos National Laboratory	11-0002	Control Bldg	831
Los Alamos National Laboratory	11-0003	Control Building	529
Los Alamos National Laboratory	11-0004	Control Building	708
Los Alamos National Laboratory	11-0024	Shop/Assembly Bldg	3,685
Los Alamos National Laboratory	11-0030	Vibration Test Bldg	2,001
Los Alamos National Laboratory	11-0033	Control Bldg/Equipment Shelter	66
Los Alamos National Laboratory	11-0036	HE Magazine	82
Los Alamos National Laboratory	15-0312	Dam Facility	53,884
Los Alamos National Laboratory	16-0534	DARHT Vessel Preparation Facility	7,964
Los Alamos National Laboratory	16-0206	Tritium Processing Facility	9,186
Los Alamos National Laboratory	16-0007	Weapons Component Test Facility	22,075
Los Alamos National Laboratory	16-0301	Thermoconditioning Rest House	6,795
Los Alamos National Laboratory	11-0021	Z Elec Substation	-
Los Alamos National Laboratory	11-0025	Drop Tower	-
Los Alamos National Laboratory	11-0026	Concrete Pad	-
Los Alamos National Laboratory	11-0027	Hoist & Foundation	-
Los Alamos National Laboratory	11-0028	Hoist & Found Pad	-
Los Alamos National Laboratory	11-0037	Camera Shield	-
Los Alamos National Laboratory	11-0038	Camera Shield	-
Los Alamos National Laboratory	11-0039	Sump Pit	-
Los Alamos National Laboratory	11-0040	Terminal Box Shield	-
Los Alamos National Laboratory	11-0041	Drop Pad	-
Los Alamos National Laboratory	11-0042	Drop Pad	-
Los Alamos National Laboratory	11-0050	Catch Basin	-
Los Alamos National Laboratory	11-0051	Catch Basin	-
Los Alamos National Laboratory	11-0052	Catch Basin	-
Los Alamos National Laboratory	15-0184	Phermex Chamber/Amp	10,841
Los Alamos National Laboratory	15-0185	PHERMEX Power Control Bldg	12,698
Los Alamos National Laboratory	15-0189	PHERMEX Power Supply Bldg	452
Los Alamos National Laboratory	15-0198	PHERMEX Tunnel	905
Los Alamos National Laboratory	15-0199	PHERMEX Tunnel	2,027
Los Alamos National Laboratory	15-0200	PHERMEX Tunnel	702
Los Alamos National Laboratory	15-0201	PHERMEX Tunnel	970
Los Alamos National Laboratory	15-0275	Phermex Vessel	-
Los Alamos National Laboratory	15-0310	PHERMEX Multidag Operations	3,194
Los Alamos National Laboratory	16-0392	Burn Pad	-
Los Alamos National Laboratory	36-0141	Tank Oil Storage	-
Los Alamos National Laboratory	36-0142	Tank Oil Storage	-
Los Alamos National Laboratory	03-0029	Cmr Laboratory	566,849
Los Alamos National Laboratory	36-0088	Pulse Intense X-Ray (PIXI)	3,012
Pantex Site Office	04-004	Pantex Building	264
Pantex Site Office	04-019	Pantex Building	1,555
Pantex Site Office	04-020E	Pantex Building	1,568
Pantex Site Office	04-021	Pantex Building	1,555
Pantex Site Office	04-022	Pantex Building	1,555
Pantex Site Office	04-023	Pantex Building	1,555
Pantex Site Office	04-024	Pantex Building	1,555
Pantex Site Office	04-025	Pantex Building	1,555
Pantex Site Office	04-026	Pantex Building	4,537
Pantex Site Office	04-027	Pantex Building	1,555
Pantex Site Office	04-028	Pantex Building	1,555
Pantex Site Office	04-029	Pantex Building	1,555
Pantex Site Office	04-030	Pantex Building	1,555
Pantex Site Office	04-031	Pantex Building	1,555
Pantex Site Office	04-032	Pantex Building	1,555
Pantex Site Office	04-033	Pantex Building	1,555
Pantex Site Office	04-034	Pantex Building	1,555
Pantex Site Office	04-035	Pantex Building	1,555
Pantex Site Office	04-036	Pantex Building	1,555
Pantex Site Office	04-037	Pantex Building	1,555
Pantex Site Office	04-038	Pantex Building	1,555
Pantex Site Office	04-039	Pantex Building	1,555
Pantex Site Office	04-040	Pantex Building	1,555
Pantex Site Office	04-041	Pantex Building	1,555
Pantex Site Office	04-042	Pantex Building	1,555
Pantex Site Office	04-043	Pantex Building	1,555
Pantex Site Office	04-044	Pantex Building	1,555
Pantex Site Office	04-045	Pantex Building	1,555
Pantex Site Office	04-046	Pantex Building	1,555
Pantex Site Office	04-047	Pantex Building	1,555
Pantex Site Office	04-048	Pantex Building	1,555
Pantex Site Office	04-049	Pantex Building	1,555
Pantex Site Office	04-050	Pantex Building	1,555
Pantex Site Office	04-051	Pantex Building	1,555
Pantex Site Office	04-052	Pantex Building	1,555
Pantex Site Office	04-053	Pantex Building	1,555
Pantex Site Office	04-054	Pantex Building	1,555
Pantex Site Office	04-055	Pantex Building	1,555
Pantex Site Office	04-056	Pantex Building	1,555
Pantex Site Office	04-057	Pantex Building	1,555
Pantex Site Office	04-058	Pantex Building	1,555
Pantex Site Office	04-059	Pantex Building	1,555
Pantex Site Office	04-060	Pantex Building	1,555
Pantex Site Office	04-061	Pantex Building	1,555
Pantex Site Office	04-062	Pantex Building	1,555
Pantex Site Office	04-063	Pantex Building	1,555
Pantex Site Office	04-064	Pantex Building	1,555
Pantex Site Office	04-065	Pantex Building	1,555

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Pantex Site Office	04-066	Pantex Building	1,555
Pantex Site Office	04-067	Pantex Building	1,555
Pantex Site Office	04-068	Pantex Building	1,555
Pantex Site Office	04-069	Pantex Building	1,555
Pantex Site Office	04-070	Pantex Building	1,555
Pantex Site Office	04-071	Pantex Building	1,555
Pantex Site Office	04-072	Pantex Building	1,555
Pantex Site Office	04-073	Pantex Building	1,555
Pantex Site Office	04-074	Pantex Building	1,555
Pantex Site Office	04-075	Pantex Building	1,555
Pantex Site Office	04-101	Pantex Building	1,183
Pantex Site Office	04-102	Pantex Building	1,183
Pantex Site Office	04-103	Pantex Building	1,183
Pantex Site Office	04-104	Pantex Building	1,183
Pantex Site Office	04-105	Pantex Building	1,183
Pantex Site Office	04-106	Pantex Building	1,183
Pantex Site Office	04-107	Pantex Building	1,183
Pantex Site Office	04-108	Pantex Building	1,183
Pantex Site Office	04-109	Pantex Building	1,183
Pantex Site Office	04-110	Pantex Building	1,183
Pantex Site Office	04-111	Pantex Building	1,183
Pantex Site Office	04-112	Pantex Building	1,183
Pantex Site Office	04-113	Pantex Building	1,183
Pantex Site Office	04-114	Pantex Building	1,183
Pantex Site Office	04-115	Pantex Building	1,183
Pantex Site Office	04-116	Pantex Building	1,183
Pantex Site Office	04-117	Pantex Building	1,183
Pantex Site Office	04-118	Pantex Building	1,183
Pantex Site Office	04-119	Pantex Building	1,183
Pantex Site Office	04-120	Pantex Building	1,183
Pantex Site Office	04-121	Pantex Building	1,183
Pantex Site Office	04-122	Pantex Building	1,183
Pantex Site Office	04-123	Pantex Building	1,183
Pantex Site Office	04-124	Pantex Building	1,183
Pantex Site Office	04-125	Pantex Building	1,183
Pantex Site Office	04-126	Pantex Building	1,183
Pantex Site Office	04-127	Pantex Building	1,183
Pantex Site Office	04-128	Pantex Building	1,183
Pantex Site Office	04-129	Pantex Building	1,183
Pantex Site Office	04-130	Pantex Building	1,183
Pantex Site Office	04-131	Pantex Building	1,183
Pantex Site Office	04-132	Pantex Building	1,183
Pantex Site Office	04-133	Pantex Building	1,183
Pantex Site Office	04-134	Pantex Building	1,183
Pantex Site Office	04-135	Pantex Building	1,183
Pantex Site Office	04-136	Pantex Building	1,183
Pantex Site Office	04-137	Pantex Building	1,183
Pantex Site Office	04-138	Pantex Building	1,183
Pantex Site Office	04-139	Pantex Building	1,183
Pantex Site Office	04-140	Pantex Building	1,183
Pantex Site Office	04-141	Pantex Building	1,183
Pantex Site Office	04-142	Pantex Building	1,183
Pantex Site Office	04-143	Pantex Building	375
Pantex Site Office	04-144	Pantex Building	375
Pantex Site Office	04-145	Pantex Building	392
Pantex Site Office	04-145A	Pantex Building	164
Pantex Site Office	04-146	Pantex Building	283
Pantex Site Office	04-147	Pantex Building	515
Pantex Site Office	04-148	Pantex Building	676
Pantex Site Office	04-149	Pantex Building	497
Pantex Site Office	04-150	Pantex Building	497
SNL - California	C915	DISL	71,516
SNL - California	C920	OFFICES	12,273
SNL - California	C964	SECURITY OFFICES	11,065
SNL - California	C970	WEAPONS LAB	88,886
SNL - California	C914	LABS, OFFICES, SHOP	25,237
SNL - California	C940	INTEGRATED MFG TECHNOLOGY LAB OFFICES	22,777
SNL - California	C941	INTEGRATED MANUFACTURING TECHNOLOGY LAB	30,219
SNL - California	C942	INTEGRATED MANUFACTURING TECHNOLOGY LAB	26,740
SNL - California	C943	INTEGRATED MFG TECHNOLOGY LAB EQ ROOM	7,003
SNL - California	C904	AUDITORIUM	5,083
SNL - California	C911	PERSONNEL BADGE OFFICE, PURCHASING	20,913
SNL - California	C912	OFFICE, COMPUTER	126,569
SNL - California	C922	OFFICES	12,339
SNL - California	C925	MEDICAL BLDG	5,419
SNL - California	C927	WAREHOUSE	22,001
SNL - California	C928	SHIPPING & RECEIVING	27,859
SNL - California	C929	BUILD 929 GEN OFFICE FACILITY	22,909
SNL - California	C960	FACILITIES MANAGEMENT BUILDING	12,260
SNL - California	C963	MAINT. SHOPS	14,544
SNL - California	C9631	MAINTENANCE STORAGE	18,000
SNL - California	C9633	MTL STRG BLD, MAINT TOOL ISSUE SE OF C963	12,250
SNL - California	C967	CHEM & RADIATION DETECTION LAB OFFICES	4,771
SNL - California	C916	LABS & OFFICES	41,768
SNL - California	C961	DECONTAMINATION STORAGE	3,781
SNL - Nevada	09-31	STORAGE IGLOO	-
SNL - Nevada	09-32	WATER TANK	-
SNL - Nevada	09-32	STORAGE IGLOO	-

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Site	Building ID	Building Description	Building Footprint Square Footage
SNL - Nevada	03-33	WATER TANK	-
SNL - Nevada	09-33	STORAGE IGLOO	-
SNL - Nevada	03-34	PUMP HOUSE WELL #6 BLDG	200
SNL - Nevada	09-34	STORAGE IGLOO	-
SNL - Nevada	09-36	CAMERA TOWER (WEST)	-
SNL - Nevada	03-39	OIL DRUM SHELTER	-
SNL - Nevada	03-40	BULK SHREDDER	343
SNL - Nevada	15036	STORAGE BUILDING	300
SNL - Nevada	03-42	FLAMMABLE STORAGE TRANSPORTAINER	76
SNL - Nevada	03-43	FIBER TERMINAL	120
SNL - Nevada	03-45	MOBILE LUNCH ROOM & RESTROOM TRAILER	320
SNL - Nevada	03-48	ANTENNA SUPPORT TOWER	-
SNL - Nevada	03-50	ENGINEERING LAB/PHYSICAL SECURITY OFFICE	5,658
SNL - Nevada	09-50	FIRE CONTROL BUNKER	-
SNL - Nevada	02-51	TECH SECURITY STORAGE	320
SNL - Nevada	03-51	ADMINISTRATION BLDG	6,669
SNL - Nevada	09-51	FIRE CONTROL BUNKER	-
SNL - Nevada	09-52	ASSEMBLY BLDG (8A)	8,524
SNL - Nevada	03-53	GENERATOR BLDG	2,153
SNL - Nevada	03-54	MACHINE SHOP	3,282
SNL - Nevada	09-54	EXPLOSIVE ASSEMBLY BLDG	816
SNL - Nevada	03-55	PHOTO OPTICS BLDG	3,069
SNL - Nevada	06-55	EXPLOSIVE ASSEMBLY BLDG (8B)	976
SNL - Nevada	03-56	TELESCOPE REPAIR & OFFICES BUILDING	4,000
SNL - Nevada	09-56	EXPLOSIVE BUNKER	-
SNL - Nevada	03-57	OPERATION & CONTROL BLDG	9,624
SNL - Nevada	09-57	EXPLOSIVE BUNKER	-
SNL - Nevada	06-58	GENERATOR BLDG	567
SNL - Nevada	09-59	EXPLOSIVE BUNKER	-
SNL - Nevada	03-60	MAINTENANCE AUTOMOTIVE BUILDING	4,449
SNL - Nevada	09-60	GUN CONTROL BUNKER	-
SNL - Nevada	03-62	WELDING SHOP	1,272
SNL - Nevada	09-62	ENVIRONMENTAL BLDG (9D)	1,200
SNL - Nevada	06-63	SPECIAL STORAGE FACILITY-PTJUS	1,622
SNL - Nevada	03-64	TM STORAGE & MICROWAVE BUILDING	512
SNL - Nevada	09-64	POWDER ASSEMBLY BUILDING	758
SNL - Nevada	03-65	RADIO SHOP AND OFFICES BUILDING	2,990
SNL - Nevada	09-65	EXPLOSIVE BUNKER	-
SNL - Nevada	03-66	STORAGE BLDG	669
SNL - Nevada	03-67	O&M ADMINISTRATION OFFICES & ELEC SHOP	5,157
SNL - Nevada	09-67	ALARM CONTROL BLDG	289
SNL - Nevada	03-68	COMMUNICATION STATION SHELTER	372
SNL - Nevada	03-69	SECURITY & FIRST AID BLDG	5,950
SNL - Nevada	03-70	LUNCH ROOM AND OFFICE BUILDING	1,979
SNL - Nevada	03-71	FACILITY EQUIP STORAGE SHELTER	-
SNL - Nevada	03-72	CHLORINATOR EQUIPMENT & BOILER BUILDING	220
SNL - Nevada	03-73	CARPENTRY, PLUMB, PAINT SHOP	4,167
SNL - Nevada	03-74	HEAVY DUTY SHOP	4,571
SNL - Nevada	03-75	SHIPPING & RECEIVING BUILDING	4,973
SNL - Nevada	03-77	TELEMETRY EQUIPMENT STORAGE BUILDING	970
SNL - Nevada	03-78	OFFICE BUILDING	1,021
SNL - Nevada	03-79	OFFICE BUILDING	970
SNL - Nevada	03-80	VEHICLE SERVICE FACILITY BUILDING	2,527
SNL - Nevada	03-87	DRUM CONTAINMENT FACILITY	836
SNL - Nevada	03-91	BOILER EQUIPMENT	72
SNL - Nevada	02-00	ASKANIA CAMERA TOWER	-
SNL - Nevada	03-00	ANTENNA TOWER	-
SNL - Nevada	12-00	CONTRAVES TOWER	-
SNL - Nevada	02-01	TRACKING TELESCOPE ME-16	210
SNL - Nevada	03-09	OPEN STORAGE SHED	-
SNL - Nevada	03-10	PAINT STORAGE SHED	98
SNL - Nevada	03-11	PAINT & SOLVENT STORAGE SHED	280
SNL - Nevada	03-12	STEAM CLEANER HD SHED	64
SNL - Nevada	03-17	HAZARDOUS WASTE ACCUMULATION SHELTER	265
SNL - Nevada	03-28	GUARD SHACK	92
SNL - Nevada	03-30	TM STORAGE SHED	90
SNL - Nevada	03-31	WATER TOWER	-
SNL - Nevada	09-34	CAMERA TOWER	-
SNL - Nevada	06-05	STORAGE BUILDING	96
SNL - Nevada	09-06	STORAGE SHELTER STA 9	-
SNL - Nevada	09-07	HEAT PLANT SHELTER	80
SNL - Nevada	09-08	PUMP HOUSE BUILDING	80
SNL - Nevada	09-09	X-RAY SOURCE STORAGE BLDG	284
SNL - Nevada	09-10	CAMERA TOWER	-
SNL - Nevada	09-11	CAMERA TOWER	-
SNL - Nevada	09-12	ANTENNA POWER BUILDING	96
SNL - Nevada	09-13	TEST EQUIPMENT BUILDING	96
SNL - Nevada	09-15	X-RAY LAB	98
SNL - Nevada	09-18	GUARD STATION	96
SNL - Nevada	09-19	ROCKET LAUNCHER	-
SNL - Nevada	09-20	LIGHTNING WARNING TOWER	-
SNL - Nevada	09-21	PUBLIC ADDRESS & WARNING HORN TOWER	-
SNL - Nevada	09-22	UNDERGROUND PIT	-
SNL - Nevada	09-23	GUN PIT	-
SNL - Nevada	09-24	LIGHTNING WARNING TOWER	-
SNL - Nevada	09-25	STORAGE IGLOO	-
SNL - Nevada	09-26	STORAGE IGLOO	-
SNL - Nevada	09-27	STORAGE IGLOO	-

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SNL - Nevada	09-28	STORAGE IGLOO	-
SNL - Nevada	09-29	STORAGE IGLOO	-
SNL - Nevada	09-30	STORAGE IGLOO	-
SNL - Nevada	124011694	AIRPORT APRON	-
SNL - Nevada	401011665	WATER STORAGE TANKS	-
SNL - Nevada	09-01	MAIN GATE RECEIVING CONEX	-
SNL - Nevada	0111991-04	TONOPAH TEST RANGE LAND USE PERMIT	-
SNL - Nevada	03-100	SECURITY OFFICE BUILDING	6,000
SNL - Nevada	03-101	SECURITY OFFICE/CLASSROOM BUILDING	6,000
SNL - Nevada	03-150	WATER TREATMENT BUILDING	840
SNL - Nevada	03-151	WATER TOWER STRUCTURE	-
SNL - Nevada	03-36A	PLUMBING STORAGE BOXCAR	362
SNL - Nevada	03-36B	PLUMBING STORAGE BOXCAR	362
SNL - Nevada	03-36E	FIRE DEPT STORAGE BOXCAR	362
SNL - Nevada	03-36F	ELECTRONIC STORAGE BOXCAR	362
SNL - Nevada	03-36G	SHEET METAL STORAGE BOXCAR	362
SNL - Nevada	03-36H	STORAGE BOXCAR	362
SNL - Nevada	03-36J	HEAVY DUTY/PAINTERS BOXCAR	362
SNL - Nevada	03-36K	CARPENTERS STORAGE BOXCAR	362
SNL - Nevada	03-36L	ELECTRONIC STORAGE BOXCAR	362
SNL - Nevada	03-36M	IRON WORKERS STORAGE BOXCAR	362
SNL - Nevada	03-36N	ELECTRONIC STORAGE BOXCAR	362
SNL - Nevada	03-44A	STORAGE BOXCAR	320
SNL - Nevada	03-44B	STORAGE BUILDING	1,170
SNL - Nevada	03-44C	STORAGE BOXCAR	320
SNL - Nevada	03-44D	STORAGE BUILDING	288
SNL - Nevada	03-81T	DRAFTING	970
SNL - Nevada	03-82T	ES&H SUPPORT FACILITY	1,023
SNL - Nevada	03-83T	AUTO PARTS STORAGE	970
SNL - Nevada	03-84T	DRAFTING STORAGE	970
SNL - Nevada	03-85T	FIRE EQUIP STORAGE	960
SNL - Nevada	13-00	TRACKING TELESCOPE	210
SNL - Nevada	13-01	INSTRUMENT SHED	80
SNL - Nevada	18-00	MIS-16 TELESCOPE	-
SNL - Nevada	18-00	ANTENNA TOWER	-
SNL - Nevada	18-01	RADAR STORAGE SHED	96
SNL - Nevada	18-02	CAMERA TOWER & ANTENNA	-
SNL - Nevada	18-50	WEATHER STATION/BALLOON HI BAY	1,218
SNL - Nevada	18-51	BALLOON LAUNCH FACILITY	-
SNL - Nevada	19-00	CONTRAVES TOWER	-
SNL - Nevada	22-00	CONTRAVES TOWER	-
SNL - Nevada	23-11	TELEMETRY EQUIPMENT	96
SNL - Nevada	23-16	TELEMETRY EQUIPMENT	80
SNL - Nevada	23-17	UNDERGROUND TELEM PIT	-
SNL - Nevada	23-18	UNDERGROUND TELEM PIT	-
SNL - Nevada	23-19	UNDERGROUND TELEM PIT	-
SNL - Nevada	23-20	TELEMETRY PLATFORM TOWER	-
SNL - Nevada	24-00	RADAR ANTENNA BUILDING	50
SNL - Nevada	24-01	RADAR LAB AND OFFICE	1,593
SNL - Nevada	24-02	LA-24 TELESCOPE	-
SNL - Nevada	24-04	ROHN TOWER	-
SNL - Nevada	24-05	OIL STORAGE BUILDING	96
SNL - Nevada	24-06	BATTERY EQUIPMENT STORAGE	103
SNL - Nevada	24-07	STORAGE BUILDING	64
SNL - Nevada	24-08	STORAGE BUILDING	96
SNL - Nevada	24-09	ANTENNA TOWER	-
SNL - Nevada	24-10	ANTENNA TOWER	-
SNL - Nevada	24-11	ANTENNA SUPPORT TOWER	-
SNL - Nevada	24-50	GENERATOR BLDG.	693
SNL - Nevada	24-51	GENERATOR BLDG.	600
SNL - Nevada	24-52	MPS BORE SITE BLDG	160
SNL - Nevada	24-53	REMOTE COMMUNICATION BLDG	1,210
SNL - Nevada	24-61	FIRING RANGE TRNG. FACILITY	988
SNL - Nevada	24-66	LIVE FIRE RANGE TOWER	-
SNL - Nevada	32-01	MAIN GATE GUARD HOUSE	332
SNL - Nevada	32-02	GENERATOR BLDG	160
SNL - Nevada	32-15	GENERAL BUILDING	96
SNL - Nevada	36-01	RADAR LAB AND OFFICES	980
SNL - Nevada	36-02	RADAR BORE SITE	56
SNL - Nevada	36-03	STORAGE BUILDING	96
SNL - Nevada	49-01	CONTROL VAULT (UTILITY VAULT)	-
SNL - Nevada	49-03	CAMERA CONTROL	80
SNL - Nevada	49-04	DISTRIBUTION BUILDING	160
SNL - Nevada	49-05	CAMERA TOWER	-
SNL - Nevada	49-06	BLOCK HOUSE (UTILITY)	160
SNL - Nevada	51-00	MICROWAVE TOWER	-
SNL - Nevada	67-00	PEDRO TOWER	-
SNL - Nevada	80-00	300FT TOWER AREA 9	-
SNL - Nevada	89-01	CONCRETE TARGET	-
SNL - Nevada	89-03	METAL TARGET	-
SNL - Nevada	89-04	ARCHED TARGET	-
SNL - Nevada	89-05	BRIDGE TARGET	-
SNL - Nevada	COMMUNICATIONS-NV	COMMUNICATIONS NEVADA	-
SNL - Nevada	FIRE PROTECTION-NV	FIRE PROTECTION NEVADA	-
SNL - Nevada	POWER-NV	POWER NEVADA	-
SNL - Nevada	Q101200	COMMUNICATIONS SYSTEM	-
SNL - Nevada	Q102400	ELECTRICAL SYSTEM	-

Note: The final list is dependent on decisions informed by the Complex Transformation Supplemental Programmatic Impact Statement. This list is in a preliminary stage of analysis and still needs to be worked with the nuclear weapons complex plants and laboratories.

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Site	Building ID	Building Description	Building Footprint Square Footage
SNL - Nevada	Q104700	GAS SYSTEM	-
SNL - Nevada	Q106400	SEWAGE SYSTEM	-
SNL - Nevada	Q107600	WATER SYSTEM	-
SNL - Nevada	SANITARY SEWER-NV	SANITARY SEWER	-
SNL - Nevada	WATER-NV	WATER NEVADA	-
SNL - New Mexico	DE-RP004-60AL64070	INGRANT ISLETA BUFFER ZONE FOR SLED TRK	-
SNL - New Mexico	PERM/O-KI-99-0003	INGRANT FOR SLED TRACK	-
SNL - New Mexico	PERM/O-KI-99-0005	INGRANT FOR "THUNDER RANGE"	-
SNL - New Mexico	6751A	METAL-BLDG MARV VEHICLE (N OF 6750)	320
SNL - New Mexico	6526	25-FT CENTRIFUGE FAC.	10,910
SNL - New Mexico	6586	GAMMA IRRADIATION FACILITY (OIF)	12,491
SNL - New Mexico	6741	CONTROL BLDG - TRACK	4,765
SNL - New Mexico	6743	ROCKET MOTOR CONDITNG. BL	1,243
SNL - New Mexico	6744	OBSERVATION TOWER	-
SNL - New Mexico	6745	OBSERVATION TOWER	-
SNL - New Mexico	6746	OBSERVATION TOWER	-
SNL - New Mexico	6747	OPER STORAGE IGLOO	-
SNL - New Mexico	6750	IMPACT TEST FACILITY	2,748
SNL - New Mexico	6761	OBSERVATION TOWER	-
SNL - New Mexico	9939	EXPLOSIVE FAC CONTROL	1,643
SNL - New Mexico	6741A	QUONSET STORAGE BUILDING (NE OF 6741)	180
SNL - New Mexico	6741B	OBSERVATION PLATFORM	-
SNL - New Mexico	6741C	STORAGE BUILDING (SW OF 6743)	300
SNL - New Mexico	6742B	TRANSFORMER PAD SHELTER	-
SNL - New Mexico	6742D	TRANSFORMER SHELTER	-
SNL - New Mexico	6743A	EXPLOSIVE STORAGE MAGAZINE	-
SNL - New Mexico	6743B	EXP. BUNKER (SW OF 6743)	-
SNL - New Mexico	S6740	10,000-FOOT TEST TRACK	-
SNL - New Mexico	SLED TRK EXTNSN	INGRANT FOR 10K SLED TRACK EXTENSION	-
SNL - New Mexico	6631	LOW DOSE RATE GAMMA IRRAD. FACILITY	1,844
SNL - New Mexico	6600	EXPLOSIVE TEST FACILITY	650
SNL - New Mexico	9920A	TEST STRUCTURE	-
SNL - New Mexico	9940	EXPLOSIVE TEST FACILITY-3	2,422
SNL - New Mexico	99401B	STORAGE BUILDING	240
SNL - New Mexico	99402B	STORAGE BUILDING	80
SNL - New Mexico	99403B	SHOWERING BUILDING	80
SNL - New Mexico	99404B	EQUIPMENT BUILDING	260
SNL - New Mexico	9940A	TEST EQUIPMENT BUILDING	550
SNL - New Mexico	9940B	STORAGE BUILDING	120
SNL - New Mexico	9940C	STORAGE BUILDING	48
SNL - New Mexico	9940F	STORAGE BUILDING	375
SNL - New Mexico	6525	EQUIP BLDG-6520	127
SNL - New Mexico	6505A	THERMAL EVALUATION FACILITY	1,400
SNL - New Mexico	6520CA	CENTRIFUGE SUPPORT BUILDING	75
SNL - New Mexico	6523B	PUMP BLDG FOR 6526 (S OF 6523)	1,040
SNL - New Mexico	6523C	EQUIPMENT BUILDING (W OF 6523B)	235
SNL - New Mexico	6523D	PUMP HOUSE BLDG	42
SNL - New Mexico	99406B	STORAGE BUILDING (S OF 6922)	300
SNL - New Mexico	99407B	STORAGE BUILDING (S OF 6922)	300
SNL - New Mexico	65622	OBSERVATION TOWER	-
SNL - New Mexico	6529	CENTRIFUGE MOTOR GEN BLDG	120
SNL - New Mexico	6580	HOT CELL FACILITY (HCF)	30,150
SNL - New Mexico	6597	AUXILIARY HOT CELL FACILITY (AHCF)	13,962
SNL - New Mexico	6580A	HOT CELL FIRE ESCAPE	49
SNL - New Mexico	6580B	MECHANICAL EQUIPMENT ROOM (MER)	1,170
SNL - New Mexico	6580C	6580 COLD EXHAUST FAN HOUSE	295
SNL - New Mexico	6580D	6580 HOT EXHAUST FAN HOUSE	295
Y-12 Site Office	9215	Production	168,729
Y-12 Site Office	9996	Maint. Machine Shops	151,039
Y-12 Site Office	9201-05	Production (Alpha-5)	813,642
Y-12 Site Office	9201-05W	Machine Shop	70,005
Y-12 Site Office	9204-02	Production (Beta-2)	324,083
Y-12 Site Office	9204-02E	Production (Beta-2e)	172,892
Y-12 Site Office	9204-04	Production (Beta-4)	313,771
Y-12 Site Office	9216	Production	57,812
Y-12 Site Office	9212	Production	442,317
Y-12 Site Office	9731	Offices & Labs.	37,159
Y-12 Site Office	9769	Labs.	20,050
Y-12 Site Office	9695	Plant Laboratory	81,655
Y-12 Site Office	9996	Maintenance, Dispatching	34,233
Y-12 Site Office	9201-03	Office Building (Alpha-3) Maintenance	191,978
Y-12 Site Office	9202	Dev. Labs. & Offices	157,228
Y-12 Site Office	9203	Dev. Labs. & Offices	31,101
Y-12 Site Office	9201-01	Production (Alpha-1)	270,988
Y-12 Site Office	9201-05N	Production (Alpha-5n)	78,049
Total			9,765,193

Note: The final list is dependent on decisions informed by the Complex Transformation Supplemental Programmatic Impact Statement. This list is in a preliminary stage of analysis and still needs to be worked with the nuclear weapons complex plants and laboratories.

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ENVIRONMENTAL MANAGEMENT

Mr. SIMPSON. NE and NNSA and all the different agencies get listed under Environmental Management, what truly is Environmental Management's long-term responsibilities. That gives us a better understanding of what we will have to appropriate in the future to address those issues.

To me it is not just a matter of transferring those liabilities to get them out of your budget or NE's budget. It is so we have a planning process for how to address them.

Let me ask you another brief—probably not brief—series of questions.

The Department of Energy's National Nuclear Security Administration issued its draft supplemental environmental impact statement on transforming the Nation's nuclear weapons complex. A final decision has been promised for the end of fiscal year 2008.

Your draft SPEIS contains many interesting proposals to consolidate uranium-plutonium processing in different configurations. The consolidated nuclear processing center idea, for instance, would have all of these materials in one place where it can be more easily guarded and where it would pose a much smaller risk to the environment and the public.

The adversity report last year recommended that all weapons manufacturing be consolidated in one center with significant costs and security benefits. Your draft preferred alternative for complex consolidation would take the furthest extreme and keep manufacturing scattered among many existing sites.

Now the question is is the NNSA recommendation so radically different from that of this distinguished group, and specifically what components of the RISK E analysis do you disagree with?

General SMOLEN. Sir, I will start in general terms. There were subsequent studies that looked at the cost estimates of being able to actually do that, and it was determined that in many cases it would be more advantageous based on the facilities that were available, the workforce that was available, to not consolidate everything.

Mr. SIMPSON. Costwise?

General SMOLEN. Yes.

Mr. SIMPSON. Could you provide a record of the DOE's cost-benefit analysis comparing those recommendations with DOE's draft alternative and explain why the draft preferred alternative is superior to the risky recommendation?

General SMOLEN. Yes, we will be happy to do that.

[The information follows:]

COMPLEX TRANSFORMATION COST-BENEFIT ANALYSIS

On April 4, 2008, the following documents were supplied to the Committee:

- "Independent Business Case Analysis of Consolidation Options for the Defense Programs Special Nuclear Material and Weapons Production Missions," TechSource Incorporated Report Prepared for the National Nuclear Security Administration, December 2007.
- "Office of the Secretary of Defense Cost Analysis Improvement Group Independent Assessment of the National Nuclear Security Administration's Proposed Nuclear Weapons Production Complex Modernization Program," January 10, 2008. This included the Institute for Defense Analyses Report, Economic Analysis of National Nuclear Security Administration Modernization Activities.

Mr. SIMPSON. Have you had the NNSA cost analysis of the alternatives verified by any independent entities such as the CAIG?

General SMOLEN. Yes, sir. The independent business case has been done for that. There was also a Department of Defense Cost Analysis Investment Group, the CAIG, that conducted an investigation on that. They believe that this is a better alternative.

Mr. SIMPSON. I appreciate it and look forward to looking at that information. Thank you.

Mr. VISCLOSKY. We have about 30 seconds, and you have a budget of \$828 million on the table. What is your biggest problem, in 30 seconds. What is your biggest concern?

Admiral DONALD. First off, I again appreciate the support that we have had. The key focus of what we wanted to ensure first and foremost is safe and effective operation of these reactor plants that are on the fleet right now.

I am satisfied, and I believe you should be confident that the budget we have had this year and the budget we will have next year will ensure that that continues for the Nation and for the American public.

The one issue that is starting to cause me some difficulty, however, if you go back and look at 2007 and the continuing resolution 2008, the consolidated appropriations bill, and with a potential for a continuing resolution next year, there has been a consistent erosion against my budget, \$47 million between 2007 and 2008 and could be as much as \$54 million next year.

In the grand scheme of things what these folks are talking about over here doesn't seem like a whole lot of money but it is having an impact on my ability to do advanced technology work, to support work to sustain my facilities, and it is having an impact.

Mr. VISCLOSKY. In purchasing power, is it nominal or real dollars?

Admiral DONALD. This is real dollars that we are talking about here, sir. It is something that is unique—we haven't had this much in the past—but in the past 2 years we have seen it, and it is causing an impact and it is causing me concern about the long-term health of the program.

Mr. VISCLOSKY. Gentlemen, we will go. I appreciate your service. We will follow up. We have a large series of questions for the record. They are enumerated majority and minority. Again, thank you very much.

[Questions and answers for the record follow:]

U.S. NUCLEAR WEAPONS STRATEGY FOR THE 21ST CENTURY

Chairman Visclosky. As you know the Omnibus Appropriations Bill requires submission of a, "U.S. Nuclear Weapons Strategy for the 21st Century." It directs that the Secretary of Energy in consultation with the DoD and Intelligence community develop a comprehensive nuclear security plan that includes:

- A comprehensive nuclear defense strategy, based on current and projected global threats, defining the future U.S. nuclear deterrent requirements and nuclear nonproliferation goals;
- A new Nuclear Weapons Stockpile Plan that clearly defines military requirements for the size and composition of the stockpile; and
- A comprehensive, long-term expenditure plan that defines the needs and capabilities of the NNSA weapons complex.

I can't stress this enough. We would not be responsible if we were to spend the taxpayers' money for weapons without understanding and approving the strategy those weapons are going to serve. Mr. D'Agostino, have you begun working with the Secretary to develop a weapons strategy for the 21st century as directed by Congress in the Omnibus Appropriations Bill?

What steps have been taken to develop this strategy with the Department of Defense?

Mr. D'Agostino. On March 27, 2008, the Department of Defense (DoD) delivered to Congress a classified white paper titled *National Security and Nuclear Weapons in the 21st Century*. This paper was signed out by both Secretary Gates and Bodman. This paper is the follow-on to an unclassified paper provided Congress in July 2007 titled *National Security and Nuclear Weapons: Maintaining Deterrence in the 21st Century*. Together these white papers detail the national security requirements for nuclear weapons, the rationale for the size of the operationally deployed force, and the size of the nuclear stockpile and factors that may drive stockpile size in the future.

Hearing Date/Question Number(s): April 2, 2008/Question 1

ORIGIN OF NUCLEAR STRATEGY PAPER

Chairman Visclosky. Mr. D'Agostino, what is the genesis of the paper on "National Security and Nuclear Weapons in the 21st Century" we received a few days ago? Was it written in response to directions in the FY2008 Omnibus Appropriation Act, or did it evolve from your normal planning process?

Mr. D'Agostino. In July 2007 the Administration provided Congress an unclassified paper titled *National Security and Nuclear Weapons: Maintaining Deterrence in the 21st Century*. In this short white paper, we promised to provide a more detailed paper that explained the national security requirements for nuclear weapons, the rationale for the size of the operationally deployed force and the size of the nuclear stockpile and factors that may drive stockpile size in the future.

On March 27, 2008, the Department of Defense (DoD) delivered to Congress a classified white paper titled *National Security and Nuclear Weapons in the 21st Century*. This paper was signed out by both Secretary Gates and Bodman. This paper is the follow-on to July 2007 paper. This paper also strives to answer the specific directions in the FY08 Omnibus Appropriations Act.

Hearing Date/Question Number(s): April 2, 2008/Question 2

LACK OF INTEGRATION IN THE WEAPONS COMPLEX

Chairman Visclosky. Two years ago Dr. David Overskei testified in behalf of the Secretary of Energy Advisory Board that:

"We did not find an integrated unified Complex; rather we found a set of independent laboratories and production plants, ... the DoD does not consider the Complex productive or responsive, and none of the stakeholders view the Complex as responsive in the context of the New Triad... The Complex does not operate as an integrated enterprise with a shared purpose. The physics design laboratories aggressively seek independence."

What specific steps are you taking to replace the labs' independence-and-competition mindset with one built on more efficient cooperative independence?

Mr. D'Agostino. One of our key transformation strategies is to create a more integrated and interdependent nuclear weapons complex. Dr. David Overskei and the Secretary of Energy Advisory Board deserve credit with proposing ideas that have evolved into actions to promote cooperation among our sites. However, there is a balance that must be achieved between competition and cooperation among the national security laboratories. Healthy peer review requires independence of thought when considering a nuclear explosive design and certification, and competition provides the impetus to consider alternative concepts in the process of refurbishments or replacement designs. This was the reason that two nuclear design laboratories were originally established.

We are working to promote and reward cooperation among the sites within the Complex where it is to the advantage of the whole enterprise. For example, we have included performance objectives in the award fee structure that reward cooperation among the sites, including our second year of multi-site incentives that require that certain milestones be accomplished before any of the sites receive a portion of their award fees. In addition, our current activities associated with mission and major facility consolidation will naturally lead to more cooperation among the sites. Examples of this include the proposed consolidation of major non-nuclear environmental test facilities at Sandia National Laboratories and plutonium research and development activities at Los Alamos National Laboratory that will require cooperation and sharing of costly facilities.

Chairman Visclosky. How did we get to 2017 from 2030? Is it the same?

Mr. D'Agostino. We have not changed the long-term vision of Complex Transformation, which is to create a smaller, safer, more secure, and less expensive enterprise that leverages the scientific and technical capabilities of the workforce and meets national security requirements. Because it was clear that a number of decisions that would affect long-term stockpile decisions would not be made, we changed the focus to more of what important infrastructure activities will be necessary regardless of those decisions and could be done over the next ten years. The actions that point to the year 2017 are milestones to be accomplished over the next decade, and they contribute significantly to and are necessary for our long-term goals for the Complex that go up to and beyond 2030.

600 BUILDINGS

Chairman Visclosky. You are going to close or transfer from weapons activities about 600 buildings or structures. Please provide a table showing how many structures will be closed and how many will be transferred in each of the next ten years. Provide a second table detailing the net cost impact of these closures and transfers by year. For the transfers, provide a list of what they will be transferred to.

Mr. D'Agostino. The pre-decisional draft list of the 600 buildings and structures is attached. The final list will depend on decisions informed by the Complex Transformation Supplemental Programmatic Environmental Impact Statement (SPEIS) on such matters as the future flight test location for gravity weapons. The draft list reflects a continuation of the National Nuclear Security Administration's (NNSA) effort over the last few years to close or transfer buildings and structures from weapons activities and is not yet finalized, pending the outcome of the SPEIS. These buildings and structures would either be closed or transferred to other users. Given the large number of buildings and structures in the Complex (over 6000 in the Department of Energy (DOE) Facility Infrastructure Management System data base), we are highly confident of meeting the target of 600.

The draft Ten Year Site Plans for NNSA sites were used to initially evaluate the timing for the original list of 600 surplus structures' disposition. This analysis indicates that 318 structures will be demolished, 61 transferred to other users, and the disposition pathway for the remaining balance is not yet finalized. This analysis is based on draft data from each individual site and needs to be evaluated, pending additional data from the SPEIS, by NNSA Headquarters. Further, we need to define the availability of resources that will be necessary and essential for disposition of excess assets. Surplus process contaminated structures with no inherent value to DOE, or NNSA, would be transferred to the Office of Environmental Management to undergo decontamination and demolition consistent with overall modernization plans. The net cost of closures and transfers for these structures will not be available until late fall of 2008, and we will share this information with the Committee.

Hearing Date/Question Number: April 2, 2008 / Question 5

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Site	Building ID	Building Description	Building Footprint Square Footage
Kansas City Plant	01	Manufacturing Bldg	1,751,740
Kansas City Plant	02	Main Office Building	240,500
Kansas City Plant	05	West Boiler House	50,777
Kansas City Plant	09	East Employee Entrance	1,889
Kansas City Plant	13	Manufacturing Support Bldg	132,545
Kansas City Plant	14	Four Experimental Test Cells	39,902
Kansas City Plant	15	Polymer Building	17,000
Kansas City Plant	16	Kinematics	5,354
Kansas City Plant	31	Air Monitoring Building	208
Kansas City Plant	32	Central Guard Post	1,134
Kansas City Plant	46	Unfinished Test Cell	5,870
Kansas City Plant	47	North Employee Entrance	1,529
Kansas City Plant	48	East Power House	12,875
Kansas City Plant	54	High Power Lab	31,746
Kansas City Plant	59	Waste Management Building	23,135
Kansas City Plant	68	Storage Shed	978
Kansas City Plant	73	Solid Waste Disposal	8,771
Kansas City Plant	74	Production Storage	25,783
Kansas City Plant	75	Security Supv Control	2,708
Kansas City Plant	76	Explosive Stg Bunker	150
Kansas City Plant	77	Oil Storage	2,389
Kansas City Plant	78	East Guard Post	459
Kansas City Plant	79	West Guard Post	240
Kansas City Plant	80	North Guard Post	516
Kansas City Plant	86	North Wing Lab	27,655
Kansas City Plant	87	Test Cells	118,319
Kansas City Plant	88	Forge & Casting	35,885
Kansas City Plant	89	Fire Protection Pump House	1,904
Kansas City Plant	90	Mold Heating & Cooling	2,400
Kansas City Plant	91	Piling Building	32,307
Kansas City Plant	92	Building 92	258,260
Kansas City Plant	93	Northeast Guard Post	191
Kansas City Plant	94	Northwest Guard Post	240
Kansas City Plant	96	Special Process Building	12,815
Kansas City Plant	98	Ind Wastewater Pretreatment	19,612
Kansas City Plant	99	Receiving & Shipping Security Post	300
Kansas City Plant	01-B	Receiving Dock	3,650
Kansas City Plant	01-C(85)	Main (West) Switchgear	2,400
Lawrence Livermore National Lab	331	TRITIUM FACILITY	28,492
Lawrence Livermore National Lab	334	HETB	10,452
Lawrence Livermore National Lab	332	PU FACILITY	104,687
Lawrence Livermore Site 300	803	EPD/ORD STRG WRHS	1,440
Lawrence Livermore Site 300	805	INERT MACHING/EXPLVS WST PACKNG	8,802
Lawrence Livermore Site 300	807	HE MACHINING	1,575
Lawrence Livermore Site 300	813	CHANGE HOUSE	2,810
Lawrence Livermore Site 300	816	EXPLSE WASTE STRG FAC	1,200
Lawrence Livermore Site 300	821	CHEMISTRY STORAGE	454
Lawrence Livermore Site 300	825	CHEM PROCESS FACILITY	1,323
Lawrence Livermore Site 300	826	CHEM PROCESS FACILITY	1,678
Lawrence Livermore Site 300	837	DTED STORAGE	1,016
Lawrence Livermore Site 300	850	PIRING FACILITY	5,085
Lawrence Livermore Site 300	890	SITE 300 FIRE STATION	6,752
Lawrence Livermore Site 300	895	EPD/ORD OFFICE	363
Lawrence Livermore Site 300	806A	HE MACHINING	3,408
Lawrence Livermore Site 300	806B	HE MACHINING	4,074
Lawrence Livermore Site 300	806C	MACHINING STORAGE	640
Lawrence Livermore Site 300	806D	MACHINING STORAGE	162
Lawrence Livermore Site 300	809A	HE PRESSING	2,570
Lawrence Livermore Site 300	809B	MECHANICAL SUPPORT	734
Lawrence Livermore Site 300	809C	HE OVEN FACILITY	716
Lawrence Livermore Site 300	810A	HE ASSEMBLY	3,311
Lawrence Livermore Site 300	810B	HE ASSEMBLY	884
Lawrence Livermore Site 300	810C	ASSEMBLY STORAGE	884
Lawrence Livermore Site 300	817A	HE PRESSING CONTROL ROOM	417
Lawrence Livermore Site 300	817B	HE PRESSING CELL	639
Lawrence Livermore Site 300	817D	HE PRESSING STORAGE	185
Lawrence Livermore Site 300	817E	HE PRESSING-INACTIVE	183
Lawrence Livermore Site 300	817F	HE PRESSING OVENS	565
Lawrence Livermore Site 300	817G	HE PRESSING BOILERS	217
Lawrence Livermore Site 300	817H	HE PRESSING INERT STORAGE	859
Lawrence Livermore Site 300	823A	LINAC RADIOGRAPHY	1,020
Lawrence Livermore Site 300	823B	LINAC RADIOGRAPHY	1,728
Lawrence Livermore Site 300	827A	CHEMISTRY BLDG	4,489
Lawrence Livermore Site 300	827B	SERVICE B/OP	871
Lawrence Livermore Site 300	827C	CHEM PROCESS FACILITY	3,222
Lawrence Livermore Site 300	827D	CHEM PROCESS FACILITY	4,579
Lawrence Livermore Site 300	827E	CHEM PROCESS FACILITY	3,222
Lawrence Livermore Site 300	834A	THERMAL TEST FACILITY	1,674
Lawrence Livermore Site 300	834B	STORAGE	680
Lawrence Livermore Site 300	834C	STORAGE	680
Lawrence Livermore Site 300	834D	STORAGE	1,525
Lawrence Livermore Site 300	834E	THERMAL TEST FACILITY	1,040
Lawrence Livermore Site 300	834F	STORAGE	695
Lawrence Livermore Site 300	834G	THERMAL TEST FACILITY	535
Lawrence Livermore Site 300	834H	THERMAL TEST FACILITY	1,040
Lawrence Livermore Site 300	834J	STORAGE	526
Lawrence Livermore Site 300	834L	STORAGE	1,080
Lawrence Livermore Site 300	836A	DYNAMIC TEST FACILITY	2,184

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Site	Building ID	Building Description	Building Footprint Square Footage
Lawrence Livermore Site 300	836B	STORAGE FACILITY	4,429
Lawrence Livermore Site 300	836C	DYNAMIC TEST FACILITY	2,895
Lawrence Livermore Site 300	836D	DYNAMIC TEST FACILITY	3,405
Lawrence Livermore Site 300	855A	HE MACHINING	685
Lawrence Livermore Site 300	855B	HE MACHINING	637
Lawrence Livermore Site 300	855C	HE MACHINING	612
Lawrence Livermore Site 300	OSM45C	EWITT BURN PAD	-
Lawrence Livermore Site 300	OSM10	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM15	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM2	HE WASTE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM3	HE WASTE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM33	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM36	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM4	HE WASTE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM5	HE WASTE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM51	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM80	M80 READY VAULT	-
Lawrence Livermore Site 300	OSM817C	HE STORAGE MAGAZINE	-
Lawrence Livermore Site 300	OSM82	MAGAZINE - STORAGE	-
Lawrence Livermore Site 300	OSM83	M83 READY VAULT	-
Lawrence Livermore Site 300	OSM834M	HE STORAGE	-
Lawrence Livermore Site 300	U849	COMM RADIO TWR CNTRL BLDG	-
Lawrence Livermore Site 300	U849A	COMM RADIO TWR CNTRL BLDG	-
Lawrence Livermore Site 300	U849B	COMM TWR GENERATOR BLDG	-
Lawrence Livermore Site 300	U849C	COMM RADIO TWR CNTRL BLDG	-
Lawrence Livermore Site 300	834K	PUMP STATION	547
Lawrence Livermore Site 300	856	VACANT	1,484
Lawrence Livermore Site 300	854A	VACANT	2,458
Lawrence Livermore Site 300	858A	VACANT	865
Lawrence Livermore Site 300	824	HE STORAGE FACILITY	294
Lawrence Livermore Site 300	848	WEATHER STATION	764
Lawrence Livermore Site 300	859	STORAGE	1,440
Lawrence Livermore Site 300	860	STORAGE	813
Lawrence Livermore Site 300	867	SUNKER SUPPORT FACILITY	4,342
Lawrence Livermore Site 300	870	OFFICE	3,890
Lawrence Livermore Site 300	871	ADMINISTRATION	7,929
Lawrence Livermore Site 300	874	MECHANICAL SHOPS	19,972
Lawrence Livermore Site 300	877	COMPUTER TECH. SUPPORT	3,302
Lawrence Livermore Site 300	892	CENTRAL CONTROL POST	884
Lawrence Livermore Site 300	15AL	ACCELERATOR	-
Lawrence Livermore Site 300	801A	FIRING FACILITY(FXR)	44,262
Lawrence Livermore Site 300	801B	TECHNICAL MAINTNCE SHOP	786
Lawrence Livermore Site 300	801D	ADMINISTRATION	4,532
Lawrence Livermore Site 300	812A	FIRING FACILITY	2,293
Lawrence Livermore Site 300	812D	LABORATORY	241
Lawrence Livermore Site 300	812E	LABORATORY	1,250
Lawrence Livermore Site 300	818A	HE STORAGE FACILITY	1,244
Lawrence Livermore Site 300	818C	HE STORAGE FACILITY	576
Lawrence Livermore Site 300	832A	STORAGE	540
Lawrence Livermore Site 300	832C	STORAGE	325
Lawrence Livermore Site 300	832E	MM OFFICE/SHIP&RECEIVE	1,584
Lawrence Livermore Site 300	851A	FIRING FACILITY	12,996
Lawrence Livermore Site 300	851B	MACHINE SHOP	1,005
Lawrence Livermore Site 300	851C	FABRICATION SHOP	662
Lawrence Livermore Site 300	874A	STORAGE	308
Lawrence Livermore Site 300	874B	STORAGE	308
Lawrence Livermore Site 300	OS812B	STORAGE	-
Lawrence Livermore Site 300	OS812C	STORAGE	-
Lawrence Livermore Site 300	OS812P	MITIGATION POND	-
Lawrence Livermore Site 300	OS986A	EAST OBSERVATION POST	-
Lawrence Livermore Site 300	OS897	WEST CONTROL POST	-
Lawrence Livermore Site 300	OS898	WEST OBSERVATION POST	-
Lawrence Livermore Site 300	OSM1	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM21	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM22	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM23	MAGAZINE - STORAGE VAULT	-
Lawrence Livermore Site 300	OSM24	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM30	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM31	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM32	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM34	MAGAZINE-HE CUBCL STRGE	-
Lawrence Livermore Site 300	OSM35	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM37	MAGAZINE-HE CUBCL STRGE	-
Lawrence Livermore Site 300	OSM38	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM41	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM52	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM7	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM70	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM71	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM72	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM8	MAGAZINE-STORAGE VAULT	-
Lawrence Livermore Site 300	OSM832B	EXPLOSIVES STORAGE	-
Lawrence Livermore Site 300	OSM832D	HE SHIPPING AND RECEIVING	-
Lawrence Livermore Site 300	OSM854H	MAGAZINE STORAGE	-
Lawrence Livermore Site 300	OSM854V	STORAGE	-
Lawrence Livermore Site 300	OSM857	MAGAZINE STORAGE VAULT	-
Lawrence Livermore Site 300	OSV822AD	CONTRL MTL5-STRG VAULT	-
Los Alamos National Laboratory	11-0001	Storage Bldg	618

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Site	Building ID	Building Description	Building Footprint Square Footage
Los Alamos National Laboratory	11-0002	Control Bldg	831
Los Alamos National Laboratory	11-0003	Control Building	929
Los Alamos National Laboratory	11-0004	Control Building	705
Los Alamos National Laboratory	11-0024	Shop/Assembly Bldg	3,685
Los Alamos National Laboratory	11-0030	Vibration Test Bldg	2,001
Los Alamos National Laboratory	11-0033	Control Bldg/Equipment Shelter	66
Los Alamos National Laboratory	11-0036	H2 Magazine	82
Los Alamos National Laboratory	15-0312	Dart Facility	53,884
Los Alamos National Laboratory	15-0534	DART Vessel Preparation Facility	7,964
Los Alamos National Laboratory	16-0205	Trilium Processing Facility	9,186
Los Alamos National Laboratory	16-0207	Weapons Component Test Facility	22,075
Los Alamos National Laboratory	16-0301	Thermoconditioning Rest House	8,795
Los Alamos National Laboratory	11-0021	Z Elec Substation	-
Los Alamos National Laboratory	11-0025	Drop Tower	-
Los Alamos National Laboratory	11-0026	Concrete Pad	-
Los Alamos National Laboratory	11-0027	Hoist & Foundation	-
Los Alamos National Laboratory	11-0028	Hoist & Found Pad	-
Los Alamos National Laboratory	11-0037	Camera Shield	-
Los Alamos National Laboratory	11-0038	Camera Shield	-
Los Alamos National Laboratory	11-0039	Sump Pit	-
Los Alamos National Laboratory	11-0040	Terminal Box Shield	-
Los Alamos National Laboratory	11-0041	Drop Pad	-
Los Alamos National Laboratory	11-0042	Drop Pad	-
Los Alamos National Laboratory	11-0050	Catch Basin	-
Los Alamos National Laboratory	11-0051	Catch Basin	-
Los Alamos National Laboratory	11-0052	Catch Basin	-
Los Alamos National Laboratory	15-0184	Pharmex Chamber/Amp	10,841
Los Alamos National Laboratory	15-0185	PHERMEX Power Control Bldg	12,698
Los Alamos National Laboratory	15-0189	PHERMEX Power Supply Bldg	452
Los Alamos National Laboratory	15-0198	PHERMEX Tunnel	305
Los Alamos National Laboratory	15-0199	PHERMEX Tunnel	2,027
Los Alamos National Laboratory	15-0200	PHERMEX Tunnel	702
Los Alamos National Laboratory	15-0201	PHERMEX Tunnel	670
Los Alamos National Laboratory	15-0275	Pharmex Vessel	-
Los Alamos National Laboratory	15-0310	PHERMEX Multidag Operations	3,194
Los Alamos National Laboratory	16-0392	Burn Pad	-
Los Alamos National Laboratory	36-0141	Tank Oil Storage	-
Los Alamos National Laboratory	36-0142	Tank Oil Storage	-
Los Alamos National Laboratory	03-0029	Cmr Laboratory	666,849
Los Alamos National Laboratory	36-0066	Pulse Intense X-Ray (PIXY)	3,012
Pantex Site Office	04-004	Pantex Building	264
Pantex Site Office	04-019	Pantex Building	1,555
Pantex Site Office	04-020E	Pantex Building	1,568
Pantex Site Office	04-021	Pantex Building	1,555
Pantex Site Office	04-022	Pantex Building	1,555
Pantex Site Office	04-023	Pantex Building	1,555
Pantex Site Office	04-024	Pantex Building	1,555
Pantex Site Office	04-025	Pantex Building	1,555
Pantex Site Office	04-026	Pantex Building	4,537
Pantex Site Office	04-027	Pantex Building	1,555
Pantex Site Office	04-028	Pantex Building	1,555
Pantex Site Office	04-029	Pantex Building	1,555
Pantex Site Office	04-030	Pantex Building	1,555
Pantex Site Office	04-031	Pantex Building	1,555
Pantex Site Office	04-032	Pantex Building	1,555
Pantex Site Office	04-033	Pantex Building	1,555
Pantex Site Office	04-034	Pantex Building	1,555
Pantex Site Office	04-035	Pantex Building	1,555
Pantex Site Office	04-036	Pantex Building	1,555
Pantex Site Office	04-037	Pantex Building	1,555
Pantex Site Office	04-038	Pantex Building	1,555
Pantex Site Office	04-039	Pantex Building	1,555
Pantex Site Office	04-040	Pantex Building	1,555
Pantex Site Office	04-041	Pantex Building	1,555
Pantex Site Office	04-042	Pantex Building	1,555
Pantex Site Office	04-043	Pantex Building	1,555
Pantex Site Office	04-044	Pantex Building	1,555
Pantex Site Office	04-045	Pantex Building	1,555
Pantex Site Office	04-046	Pantex Building	1,555
Pantex Site Office	04-047	Pantex Building	1,555
Pantex Site Office	04-048	Pantex Building	1,555
Pantex Site Office	04-049	Pantex Building	1,555
Pantex Site Office	04-050	Pantex Building	1,555
Pantex Site Office	04-051	Pantex Building	1,555
Pantex Site Office	04-052	Pantex Building	1,555
Pantex Site Office	04-053	Pantex Building	1,555
Pantex Site Office	04-054	Pantex Building	1,555
Pantex Site Office	04-055	Pantex Building	1,555
Pantex Site Office	04-056	Pantex Building	1,555
Pantex Site Office	04-057	Pantex Building	1,555
Pantex Site Office	04-058	Pantex Building	1,555
Pantex Site Office	04-059	Pantex Building	1,555
Pantex Site Office	04-060	Pantex Building	1,555
Pantex Site Office	04-061	Pantex Building	1,555
Pantex Site Office	04-062	Pantex Building	1,555
Pantex Site Office	04-063	Pantex Building	1,555
Pantex Site Office	04-064	Pantex Building	1,555
Pantex Site Office	04-065	Pantex Building	1,555

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Pantex Site Office	04-066	Pantex Building	1,555
Pantex Site Office	04-067	Pantex Building	1,555
Pantex Site Office	04-068	Pantex Building	1,555
Pantex Site Office	04-069	Pantex Building	1,555
Pantex Site Office	04-070	Pantex Building	1,555
Pantex Site Office	04-071	Pantex Building	1,555
Pantex Site Office	04-072	Pantex Building	1,555
Pantex Site Office	04-073	Pantex Building	1,555
Pantex Site Office	04-074	Pantex Building	1,555
Pantex Site Office	04-075	Pantex Building	1,555
Pantex Site Office	04-101	Pantex Building	1,183
Pantex Site Office	04-102	Pantex Building	1,183
Pantex Site Office	04-103	Pantex Building	1,183
Pantex Site Office	04-104	Pantex Building	1,183
Pantex Site Office	04-105	Pantex Building	1,183
Pantex Site Office	04-106	Pantex Building	1,183
Pantex Site Office	04-107	Pantex Building	1,183
Pantex Site Office	04-108	Pantex Building	1,183
Pantex Site Office	04-109	Pantex Building	1,183
Pantex Site Office	04-110	Pantex Building	1,183
Pantex Site Office	04-111	Pantex Building	1,183
Pantex Site Office	04-112	Pantex Building	1,183
Pantex Site Office	04-113	Pantex Building	1,183
Pantex Site Office	04-114	Pantex Building	1,183
Pantex Site Office	04-115	Pantex Building	1,183
Pantex Site Office	04-116	Pantex Building	1,183
Pantex Site Office	04-117	Pantex Building	1,183
Pantex Site Office	04-118	Pantex Building	1,183
Pantex Site Office	04-119	Pantex Building	1,183
Pantex Site Office	04-120	Pantex Building	1,183
Pantex Site Office	04-121	Pantex Building	1,183
Pantex Site Office	04-122	Pantex Building	1,183
Pantex Site Office	04-123	Pantex Building	1,183
Pantex Site Office	04-124	Pantex Building	1,183
Pantex Site Office	04-125	Pantex Building	1,183
Pantex Site Office	04-126	Pantex Building	1,183
Pantex Site Office	04-127	Pantex Building	1,183
Pantex Site Office	04-128	Pantex Building	1,183
Pantex Site Office	04-129	Pantex Building	1,183
Pantex Site Office	04-130	Pantex Building	1,183
Pantex Site Office	04-131	Pantex Building	1,183
Pantex Site Office	04-132	Pantex Building	1,183
Pantex Site Office	04-133	Pantex Building	1,183
Pantex Site Office	04-134	Pantex Building	1,183
Pantex Site Office	04-135	Pantex Building	1,183
Pantex Site Office	04-136	Pantex Building	1,183
Pantex Site Office	04-137	Pantex Building	1,183
Pantex Site Office	04-138	Pantex Building	1,183
Pantex Site Office	04-139	Pantex Building	1,183
Pantex Site Office	04-140	Pantex Building	1,183
Pantex Site Office	04-141	Pantex Building	1,183
Pantex Site Office	04-142	Pantex Building	1,183
Pantex Site Office	04-143	Pantex Building	375
Pantex Site Office	04-144	Pantex Building	375
Pantex Site Office	04-145	Pantex Building	392
Pantex Site Office	04-145A	Pantex Building	164
Pantex Site Office	04-146	Pantex Building	283
Pantex Site Office	04-147	Pantex Building	515
Pantex Site Office	04-148	Pantex Building	676
Pantex Site Office	04-149	Pantex Building	497
Pantex Site Office	04-150	Pantex Building	497
SNL - California	C915	DSL	71,516
SNL - California	C920	OFFICES	12,273
SNL - California	C964	SECURITY OFFICES	11,065
SNL - California	C910	WEAPONS LAB	88,886
SNL - California	C914	LABS, OFFICES, SHOP	25,217
SNL - California	C940	INTEGRATED MFG TECHNOLOGY LAB OFFICES	22,777
SNL - California	C941	INTEGRATED MANUFACTURING TECHNOLOGY LAB	30,219
SNL - California	C942	INTEGRATED MANUFACTURING TECHNOLOGY LAB	25,740
SNL - California	C943	INTEGRATED MFG TECHNOLOGY LAB EQ ROOM	7,003
SNL - California	C904	AUDITORIUM	5,083
SNL - California	C911	PERSONNEL BADGE OFFICE, PURCHASING	20,913
SNL - California	C912	OFFICE, COMPUTER	126,589
SNL - California	C922	OFFICES	12,339
SNL - California	C925	MEDICAL BLDG	5,419
SNL - California	C927	WAREHOUSE	22,001
SNL - California	C928	SHIPPING & RECEIVING	27,859
SNL - California	C929	BUILD 929 GEN OFFICE FACILITY	22,909
SNL - California	C960	FACILITIES MANAGEMENT BUILDING	12,260
SNL - California	C963	MAINT. SHOPS	14,544
SNL - California	C9631	MAINTENANCE STORAGE	18,000
SNL - California	C9633	MTL STRG BLD, MAINT TOOL ISSUE SE OF C963	12,250
SNL - California	C967	CHEM & RADIATION DETECTION LAB OFFICES	4,771
SNL - California	C916	LABS & OFFICES	41,768
SNL - California	C961	DECONTAMINATION STORAGE	3,781
SNL - Nevada	09-31	STORAGE IGLOO	-
SNL - Nevada	09-32	WATER TANK	-
SNL - Nevada	09-32	STORAGE IGLOO	-

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Site	Building ID	Building Description	Building Footprint Square Footage
SNL - Nevada	03-33	WATER TANK	-
SNL - Nevada	09-33	STORAGE IGLOO	-
SNL - Nevada	03-34	PUMP HOUSE WELL #6 BLDG	200
SNL - Nevada	09-34	STORAGE IGLOO	-
SNL - Nevada	09-36	CAMERA TOWER (WEST)	-
SNL - Nevada	09-39	OIL DRUM SHELTER	-
SNL - Nevada	03-40	BULK SHREDDER	343
SNL - Nevada	15036	STORAGE BUILDING	300
SNL - Nevada	03-42	FLAMMABLE STORAGE TRANSPORTAINER	76
SNL - Nevada	03-43	FIBER TERMINAL	120
SNL - Nevada	03-45	MOBILE LUNCH ROOM & RESTROOM TRAILER	320
SNL - Nevada	03-48	ANTENNA SUPPORT TOWER	-
SNL - Nevada	03-50	ENGINEERING LAB/PHYSICAL SECURITY OFFICE	5,658
SNL - Nevada	09-50	FIRE CONTROL BUNKER	-
SNL - Nevada	02-51	TECH SECURITY STORAGE	320
SNL - Nevada	03-51	ADMINISTRATION BLDG.	6,669
SNL - Nevada	09-51	FIRE CONTROL BUNKER	-
SNL - Nevada	09-52	ASSEMBLY BLDG (9A)	8,524
SNL - Nevada	03-53	GENERATOR BLDG.	2,153
SNL - Nevada	03-54	MACHINE SHOP	3,282
SNL - Nevada	09-54	EXPLOSIVE ASSEMBLY BLDG	816
SNL - Nevada	03-55	PHOTO OPTICS BLDG.	3,069
SNL - Nevada	09-55	EXPLOSIVE ASSEMBLY BLDG (9B)	978
SNL - Nevada	03-56	TELESCOPE REPAIR & OFFICES BUILDING	4,000
SNL - Nevada	09-56	EXPLOSIVE BUNKER	-
SNL - Nevada	03-57	OPERATION & CONTROL BLDG	9,824
SNL - Nevada	09-57	EXPLOSIVE BUNKER	-
SNL - Nevada	09-58	GENERATOR BLDG.	567
SNL - Nevada	09-59	EXPLOSIVE BUNKER	-
SNL - Nevada	03-60	MAINTENANCE AUTOMOTIVE BUILDING	4,449
SNL - Nevada	09-60	GUN CONTROL BUNKER	-
SNL - Nevada	03-62	WELDING SHOP	1,272
SNL - Nevada	09-62	ENVIRONMENTAL BLDG. (9D)	1,200
SNL - Nevada	09-63	SPECIAL STORAGE FACILITY-PTIUS	1,822
SNL - Nevada	03-64	TM STORAGE & MICROWAVE BUILDING	512
SNL - Nevada	09-64	POWDER ASSEMBLY BUILDING	758
SNL - Nevada	03-65	RADIO SHOP AND OFFICES BUILDING	2,990
SNL - Nevada	09-65	EXPLOSIVE BUNKER	-
SNL - Nevada	03-66	STORAGE BLDG	669
SNL - Nevada	03-67	O&M ADMINISTRATION OFFICES & ELEC SHOP	5,157
SNL - Nevada	09-67	ALARM CONTROL BLDG	288
SNL - Nevada	03-68	COMMUNICATION STATION SHELTER	372
SNL - Nevada	03-69	SECURITY & FIRST AID BLDG	5,950
SNL - Nevada	03-70	LUNCH ROOM AND OFFICE BUILDING	1,979
SNL - Nevada	03-71	FACILITY EQUIP STORAGE SHELTER	-
SNL - Nevada	03-72	CHLORINATOR EQUIPMENT & BOILER BUILDING	220
SNL - Nevada	03-73	CARPENTRY, PLUMB, PAINT SHOP	4,167
SNL - Nevada	03-74	HEAVY DUTY SHOP	4,571
SNL - Nevada	03-75	SHIPPING & RECEIVING BUILDING	4,073
SNL - Nevada	03-77	TELEMETRY EQUIPMENT STORAGE BUILDING	970
SNL - Nevada	03-78	OFFICE BUILDING	1,021
SNL - Nevada	03-79	OFFICE BUILDING	970
SNL - Nevada	03-80	VEHICLE SERVICE FACILITY BUILDING	2,527
SNL - Nevada	03-87	DRUM CONTAINMENT FACILITY	806
SNL - Nevada	03-91	BOILER EQUIPMENT	72
SNL - Nevada	02-00	ASKANIA CAMERA TOWER	-
SNL - Nevada	03-00	ANTENNA TOWER	-
SNL - Nevada	12-00	CONTRAVES TOWER	-
SNL - Nevada	02-01	TRACKING TELESCOPE ME-16	210
SNL - Nevada	03-09	OPEN STORAGE SHED	-
SNL - Nevada	03-10	PAINT STORAGE SHED	98
SNL - Nevada	03-11	PAINT & SOLVENT STORAGE SHED	280
SNL - Nevada	03-12	STEAM CLEANER HD SHED	64
SNL - Nevada	03-17	HAZARDOUS WASTE ACCUMULATION SHELTER	285
SNL - Nevada	03-28	GUARD SHACK	93
SNL - Nevada	03-30	TM STORAGE SHED	90
SNL - Nevada	03-31	WATER TOWER	-
SNL - Nevada	09-04	CAMERA TOWER	-
SNL - Nevada	09-05	STORAGE BUILDING	96
SNL - Nevada	09-06	STORAGE SHELTER STA 9	-
SNL - Nevada	09-07	HEAT PLANT SHELTER	80
SNL - Nevada	09-08	PUMP HOUSE BUILDING	80
SNL - Nevada	09-09	X-RAY SOURCE STORAGE BLDG	284
SNL - Nevada	09-10	CAMERA TOWER	-
SNL - Nevada	09-11	CAMERA TOWER	-
SNL - Nevada	09-12	ANTENNA POWER BUILDING	98
SNL - Nevada	09-13	TEST EQUIPMENT BUILDING	98
SNL - Nevada	09-15	X-RAY LAB	98
SNL - Nevada	09-16	GUARD STATION	98
SNL - Nevada	09-19	ROCKET LAUNCHER	-
SNL - Nevada	09-20	LIGHTNING WARNING TOWER	-
SNL - Nevada	09-21	PUBLIC ADDRESS & WARNING HORN TOWER	-
SNL - Nevada	09-22	UNDERGROUND PIT	-
SNL - Nevada	09-23	GUN PIT	-
SNL - Nevada	09-24	LIGHTNING WARNING TOWER	-
SNL - Nevada	09-25	STORAGE IGLOO	-
SNL - Nevada	09-26	STORAGE IGLOO	-
SNL - Nevada	09-27	STORAGE IGLOO	-

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SNL - Nevada	09-28	STORAGE IGLOO	-
SNL - Nevada	09-29	STORAGE IGLOO	-
SNL - Nevada	09-30	STORAGE IGLOO	-
SNL - Nevada	124011684	AIRPORT APRON	-
SNL - Nevada	401011685	WATER STORAGE TANKS	-
SNL - Nevada	00-01	MAIN GATE RECEIVING CONEX	-
SNL - Nevada	011991-04	TONGPAH TEST RANGE LAND USE PERMIT	-
SNL - Nevada	03-100	SECURITY OFFICE BUILDING	6,000
SNL - Nevada	03-101	SECURITY OFFICE/CLASSROOM BUILDING	6,000
SNL - Nevada	03-150	WATER TREATMENT BUILDING	640
SNL - Nevada	03-151	WATER TOWER STRUCTURE	-
SNL - Nevada	03-36A	PLUMBING STORAGE BOXCAR	362
SNL - Nevada	03-36B	PLUMBING STORAGE BOXCAR	362
SNL - Nevada	03-36E	FIRE DEPT STORAGE BOXCAR	362
SNL - Nevada	03-36F	ELECTRONIC STORAGE BOXCAR	362
SNL - Nevada	03-36G	SHEET METAL STORAGE BOXCAR	362
SNL - Nevada	03-36H	STORAGE BOXCAR	362
SNL - Nevada	03-36I	HEAVY DUTY PAINTERS BOXCAR	362
SNL - Nevada	03-36K	CARPENTERS STORAGE BOXCAR	362
SNL - Nevada	03-36L	ELECTRONIC STORAGE BOXCAR	362
SNL - Nevada	03-36M	IRON WORKERS STORAGE BOXCAR	362
SNL - Nevada	03-36N	ELECTRONIC STORAGE BOXCAR	362
SNL - Nevada	03-44A	STORAGE BOXCAR	320
SNL - Nevada	03-44B	STORAGE BUILDING	1,170
SNL - Nevada	03-44C	STORAGE BOXCAR	320
SNL - Nevada	03-44D	STORAGE BUILDING	285
SNL - Nevada	03-81T	DRAFTING	970
SNL - Nevada	03-82T	ES&H SUPPORT FACILITY	1,023
SNL - Nevada	03-83T	AUTO PARTS STORAGE	970
SNL - Nevada	03-84T	DRAFTING STORAGE	970
SNL - Nevada	03-85T	FIRE EQUIP STORAGE	980
SNL - Nevada	13-00	TRACKING TELESCOPE	210
SNL - Nevada	13-01	INSTRUMENT SHED	80
SNL - Nevada	16-00	ME-15 TELESCOPE	-
SNL - Nevada	18-00	ANTENNA TOWER	-
SNL - Nevada	18-01	RADAR STORAGE SHED	96
SNL - Nevada	18-02	CAMERA TOWER & ANTENNA	-
SNL - Nevada	18-20	WEATHER STATION-BALLOON HI BAY	1,216
SNL - Nevada	18-51	BALLOON LAUNCH FACILITY	-
SNL - Nevada	19-00	CONTRAVES TOWER	-
SNL - Nevada	21-00	CONTRAVES TOWER	-
SNL - Nevada	22-00	CONTRAVES TOWER	-
SNL - Nevada	23-11	TELEMETRY EQUIPMENT	96
SNL - Nevada	23-16	TELEMETRY EQUIPMENT	80
SNL - Nevada	23-17	UNDERGROUND TELEM PIT	-
SNL - Nevada	23-18	UNDERGROUND TELEM PIT	-
SNL - Nevada	23-19	UNDERGROUND TELEM PIT	-
SNL - Nevada	23-20	TELEMETRY PLATFORM TOWER	-
SNL - Nevada	24-00	RADAR ANTENNA BUILDING	50
SNL - Nevada	24-01	RADAR LAB AND OFFICE	1,593
SNL - Nevada	24-02	LA-24 TELESCOPE	-
SNL - Nevada	24-04	ROHN TOWER	-
SNL - Nevada	24-05	OIL STORAGE BUILDING	96
SNL - Nevada	24-06	BATTERY EQUIPMENT STORAGE	103
SNL - Nevada	24-07	STORAGE BUILDING	64
SNL - Nevada	24-08	STORAGE BUILDING	96
SNL - Nevada	24-09	ANTENNA TOWER	-
SNL - Nevada	24-10	ANTENNA TOWER	-
SNL - Nevada	24-11	ANTENNA SUPPORT TOWER	-
SNL - Nevada	24-30	GENERATOR BLDG.	693
SNL - Nevada	24-51	GENERATOR BLDG.	609
SNL - Nevada	24-52	MPS-BORE SITE BLDG.	160
SNL - Nevada	24-53	REMOTE COMMUNICATION BLDG.	1,210
SNL - Nevada	24-61	FIRING RANGE TRNG. FACILITY	988
SNL - Nevada	24-66	LIVE FIRE RANGE TOWER	-
SNL - Nevada	32-01	MAIN GATE GUARD HOUSE	332
SNL - Nevada	32-02	GENERATOR BLDG.	180
SNL - Nevada	32-15	GENERAL BUILDING	96
SNL - Nevada	36-01	RADAR LAB AND OFFICES	980
SNL - Nevada	36-02	RADAR BORE SITE	56
SNL - Nevada	36-03	STORAGE BUILDING	96
SNL - Nevada	49-01	CONTROL VAULT (UTILITY VAULT)	60
SNL - Nevada	49-03	CAMERA CONTROL	80
SNL - Nevada	49-04	DISTRIBUTION BUILDING	160
SNL - Nevada	49-05	CAMERA TOWER	-
SNL - Nevada	49-06	BLOCK HOUSE (UTILITY)	160
SNL - Nevada	51-00	MICROWAVE TOWER	-
SNL - Nevada	67-00	PEDRO TOWER	-
SNL - Nevada	80-00	300FT TOWER AREA 9	-
SNL - Nevada	85-01	CONCRETE TARGET	-
SNL - Nevada	89-03	METAL TARGET	-
SNL - Nevada	89-04	ARCHED TARGET	-
SNL - Nevada	89-05	BRIDGE TARGET	-
SNL - Nevada	COMMUNICATIONS-NV	COMMUNICATIONS NEVADA	-
SNL - Nevada	FIRE PROTECTION-NV	FIRE PROTECTION NEVADA	-
SNL - Nevada	POWER-NV	POWER NEVADA	-
SNL - Nevada	Q101200	COMMUNICATIONS SYSTEM	-
SNL - Nevada	Q102400	ELECTRICAL SYSTEM	-

Note: The final list is dependent on decisions informed by the Complex Transformation Supplemental Programmatic Impact Statement. This list is in a preliminary stage of analysis and still needs to be worked with the nuclear weapons complex plants and laboratories.

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Site	Building ID	Building Description	Building Footprint Square Footage
SNL - Nevada	Q104700	GAS SYSTEM	-
SNL - Nevada	Q106400	SEWAGE SYSTEM	-
SNL - Nevada	Q107800	WATER SYSTEM	-
SNL - Nevada	SANITARY SEWER-NV	SANITARY SEWER	-
SNL - Nevada	WATER-NV	WATER NEVADA	-
SNL - New Mexico	DE-RP004-90AL64070	INGRANT ISLETA BUFFER ZONE FOR SLED TRK	-
SNL - New Mexico	PERMO-KI-02-0003	INGRANT FOR SLED TRACK	-
SNL - New Mexico	PERMO-KI-89-0005	INGRANT FOR "THUNDER RANGE"	-
SNL - New Mexico	6751A	METAL-BLDG MARV VEHICLE (N OF 6750)	320
SNL - New Mexico	6526	25-FT CENTRIFUGE FAC	10,910
SNL - New Mexico	6566	GAMMA IRRADIATION FACILITY (GIF)	12,491
SNL - New Mexico	6741	CONTROL BLDG - TRACK	4,765
SNL - New Mexico	6743	ROCKET MOTOR CONDITNG. BL	1,243
SNL - New Mexico	6744	OBSERVATION TOWER	-
SNL - New Mexico	6745	OBSERVATION TOWER	-
SNL - New Mexico	6746	OBSERVATION TOWER	-
SNL - New Mexico	6747	OPER STORAGE IGLOO	-
SNL - New Mexico	6750	IMPACT TEST FACILITY	2,748
SNL - New Mexico	6751	OBSERVATION TOWER	-
SNL - New Mexico	9939	EXPLOSIVE FAC CONTROL	1,643
SNL - New Mexico	6741A	QUONSET STORAGE BUILDING (NE OF 6741)	180
SNL - New Mexico	6741B	OBSERVATION PLATFORM	-
SNL - New Mexico	6741C	STORAGE BUILDING (SW OF 6743)	300
SNL - New Mexico	6742B	TRANSFORMER PAD SHELTER	-
SNL - New Mexico	6742D	TRANSFORMER SHELTER	-
SNL - New Mexico	6743A	EXPLOSIVE STORAGE MAGAZINE	-
SNL - New Mexico	6743B	EXP. BUNKER (SW OF 6743)	-
SNL - New Mexico	S/6740	10,000-FOOT TEST TRACK	-
SNL - New Mexico	SLED TRK EXTNSN	INGRANT FOR 10K SLED TRACK EXTENSION	-
SNL - New Mexico	6831	LOW DOSE RATE GAMMA RRAD. FACILITY	1,844
SNL - New Mexico	9920	EXPLOSIVE TEST FACILITY	650
SNL - New Mexico	9920A	TEST STRUCTURE	-
SNL - New Mexico	9940	EXPLOSIVE TEST FACILITY-3	2,422
SNL - New Mexico	99401B	STORAGE BUILDING	240
SNL - New Mexico	99402B	STORAGE BUILDING	80
SNL - New Mexico	99403B	SHOWERING BUILDING	80
SNL - New Mexico	99404B	EQUIPMENT BUILDING	280
SNL - New Mexico	9940A	TEST EQUIPMENT BUILDING	580
SNL - New Mexico	9940B	STORAGE BUILDING	120
SNL - New Mexico	9940C	STORAGE BUILDING	48
SNL - New Mexico	9940F	STORAGE BUILDING	375
SNL - New Mexico	6525	EQUIP BLDG-4520	127
SNL - New Mexico	6505A	THERMAL EVALUATION FACILITY	1,400
SNL - New Mexico	6520CA	CENTRIFUGE SUPPORT BUILDING	75
SNL - New Mexico	6523B	PUMP BLDG FOR 6528 (S OF 6523)	1,040
SNL - New Mexico	6522C	EQUIPMENT BUILDING (W OF 6523B)	235
SNL - New Mexico	6523D	PUMP HOUSE BLDG	42
SNL - New Mexico	99406B	STORAGE BUILDING (S OF 6923)	300
SNL - New Mexico	99407B	STORAGE BUILDING (S OF 6922)	300
SNL - New Mexico	S/6522	OBSERVATION TOWER	-
SNL - New Mexico	6529	CENTRIFUGE MOTOR GEN BLDG	120
SNL - New Mexico	6580	HOT CELL FACILITY (HCF)	30,150
SNL - New Mexico	6597	AUXILIARY HOT CELL FACILITY (AHCFL)	13,982
SNL - New Mexico	6580A	HOT CELL FIRE ESCAPE	49
SNL - New Mexico	6580B	MECHANICAL EQUIPMENT ROOM (MER)	1,170
SNL - New Mexico	6580C	6580 COLD EXHAUST FAN HOUSE	295
SNL - New Mexico	6580D	6580 HOT EXHAUST FAN HOUSE	295
Y-12 Site Office	9215	Production	188,729
Y-12 Site Office	9698	Maint. Machine Shops	151,039
Y-12 Site Office	9201-03	Production (Alpha-5)	813,642
Y-12 Site Office	9201-05W	Machine Shop	70,005
Y-12 Site Office	9204-02	Production(Beta-2)	324,065
Y-12 Site Office	9204-02E	Production(Beta-2e)	172,892
Y-12 Site Office	9204-04	Production (Beta-4)	313,771
Y-12 Site Office	9206	Production	57,812
Y-12 Site Office	9212	Production	442,317
Y-12 Site Office	9731	Offices & Labs.	37,159
Y-12 Site Office	9769	Labs	20,050
Y-12 Site Office	9995	Plant Laboratory	81,885
Y-12 Site Office	9996	Maintenance, Dispatching	34,233
Y-12 Site Office	9201-03	Office Building (Alpha-3) Maintenance	191,978
Y-12 Site Office	9202	Dev. Labs. & Offices	157,228
Y-12 Site Office	9203	Dev. Labs. & Offices	31,107
Y-12 Site Office	9201-01	Production(Alpha-1)	270,988
Y-12 Site Office	9201-05N	Production(Alpha-5n)	78,049
Total			9,769,193

Note: The final list is dependent on decisions informed by the Complex Transformation Supplemental Programmatic Impact Statement. This list is in a preliminary stage of analysis and still needs to be worked with the nuclear weapons complex plants and laboratories.

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8 SITES

Chairman Visclosky. You are going to consolidate missions and capabilities at the 8 sites. Please provide a table listing operating cost impact at each site of these consolidations for each of the next ten years. Additionally, provide an explanation of cost impact of closing one of the 8 sites altogether – the site with the weakest rationale for continued separate existence.

Mr. D'Agostino. There are redundancies in plutonium operations, high explosives research and development (R&D), tritium R&D, major hydrodynamic testing and major environmental testing in the nuclear weapons complex. Consolidation alternatives are analyzed in the Draft Complex Transformation Supplemental Programmatic Environmental Impact Statement (SPEIS), the Kansas City Responsive Infrastructure and Manufacturing and Sourcing Environmental Assessment (KCRIMS-EA), and associated business case studies. Under some of these alternatives, the National Nuclear Security Administration (NNSA) would consolidate, relocate or eliminate facilities and programs, and improve operational efficiencies. The analysis was conducted with the participation of the plants and laboratories to ensure that required capabilities will be maintained. The attached table lists the changes that would be expected at each site under NNSA's preferred alternative. Many of these actions would occur within the next five to ten years. The cost impacts are being evaluated in economic studies that will be completed in July 2008. Preliminary versions of these business case studies have been available to the public since January 2008 at www.complexttransformationspeis.com and have been made available to the four Congressional committees with oversight for weapons activities.

The eight sites are the three national security laboratories (Los Alamos National Laboratory, Lawrence Livermore National Laboratory, and Sandia National Laboratories including NNSA flight testing of gravity weapons at the Tonopah Test Range), four industrial plants (Kansas City Plant, Y-12 National Security Complex, Savannah River Site, and the Pantex Plant), and a nuclear test site (Nevada Test Site). Although we project significant changes, none of these sites would be closed under the preferred alternative. Historically, closure costs for nuclear sites are very large because of the need for accelerated cleanup and environmental restoration. Non-nuclear sites, such as the Kansas City Plant (KCP), would not have closure costs on the magnitude of a nuclear site, and their products are more commercially available than nuclear components. The latter makes the KCP subject to strong competitive forces to reduce costs and improve performance. As a result, the KCP is frequently rated as one of our top-performing and most cost-effective sites. By outsourcing many components to industry, KCP retains only those non-nuclear operations that require completion in a high-security facility.

Closure of Pantex and Y-12 are analyzed in the Draft SPEIS and business case studies for the Consolidated Nuclear Production Center alternative (consolidation of plutonium and uranium operations and weapons assembly/disassembly in one location) if neither site were selected as the location of such a center.

**Complex Transformation Changes
(including Preferred Alternatives in the Draft Supplemental Programmatic Environmental Impact Statement)**

	Change Between Now and 2017	Change Between 2017 and 2030
Los Alamos National Laboratory	<p>Center of Excellence for Nuclear Design and Engineering enhanced by:</p> <ul style="list-style-type: none"> • Plutonium Center for plutonium pit manufacturing and research and development (R&D) at TA-55 • Detonator production and contained high explosives (HE) R&D • Materials research as potential science magnet • Supercomputing platform host site <p>Changes:</p> <ul style="list-style-type: none"> • Special nuclear material consolidated to two sites, with only one requiring Category I/II levels of security. • 50% reduction nuclear operations footprint. • 20% reduction total building footprint (~2 million gross square feet (GSF) reduction including CMR (570K GSF); Technology Complex (380K GSF); and Main Admin Bldg (309K GSF). • Over next decade or so, up to 20% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	<p>Changes:</p> <ul style="list-style-type: none"> • Completion of a Chemistry & Metallurgy Research Replacement (CMRR) - Nuclear Facility • Planned addition of Matter-Radiation Interaction in Extremes facility

Lawrence Livermore National Laboratory	<p>Center of Excellence for Nuclear Design and Engineering enhanced by:</p> <ul style="list-style-type: none"> • HE R&D with High Explosive Applications Facility as Center for formulation, processing, and confined testing (<10kg) • High Energy Density Physics with National Ignition Facility as science magnet • Supercomputing platform host site <p>Changes:</p> <ul style="list-style-type: none"> • Category I/II quantities of special nuclear material removed from site by end of 2012 and downgrading of "Superblock" buildings 332 & 334. • 90% reduction in acreage supported by Weapons Account with status change for Site 300. • 30% reduction in buildings and structures supported by Weapons Account. • Over a decade or so, up to 20% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	
Nevada Test Site	<p>Center of Excellence for High-hazard Experiments enhanced by:</p> <ul style="list-style-type: none"> • Large-scale, (confined and open-air) high explosive testing (>10 kg) with Big Explosives Experimental Facility • Hydrodynamic testing 	

	<p>Subcritical and plutonium experiments with U1A and Joint Actinide Shock Physics Experimental Research</p> <ul style="list-style-type: none"> • Criticality experiments and special nuclear material operations at the Device Assembly Facility <p>Changes:</p> <ul style="list-style-type: none"> • Few changes to site infrastructure as currently planned, however: <ul style="list-style-type: none"> • Control Point 1 decommissioned • Facility operations transferred to NSTec • Over next decade, up to 20% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	
Pantex	<p>Center of Excellence for Assembly/ Disassembly; HE Production & Machining enhanced by:</p> <ul style="list-style-type: none"> • Non-destructive weapon/ pit surveillance with existing Weapons Engineering and Testing Lab and new Weapons Surveillance Facility • Updated facilities and disposition of substandard buildings and structures • Consolidation of special nuclear materials. <p>Changes:</p> <ul style="list-style-type: none"> • Potential closure of the Zone 4 storage area by consolidation of special nuclear material into Zone 12. • 45% reduction in high security perimeter. 	

	<ul style="list-style-type: none"> • 25% reduction in total building footprint. • Over next decade or so, up to 5% to 10% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	
Sandia National Laboratories	<p>Center of Excellence for Non-Nuclear Design and Engineering; Major Environmental Testing enhanced by:</p> <ul style="list-style-type: none"> • Microelectronics & Engineering Science Applications (MESA) complex as engineering magnet • Weapons environmental testing facilities • Energetic devices R&D with Explosives Test Facility • Neutron generator design and manufacturing facilities <p>Changes:</p> <ul style="list-style-type: none"> • Category I/II special nuclear material removed in 2008. • Transition SNL/CA (410 acres) to multi-agency lab to reduce NNSA landlord costs. • Revised flight testing strategy for gravity weapons that opens Tonopah Test Range (179,000 acres) for other uses. • Over next decade or so, up to 20% reduction staff supporting nuclear weapons activities. These reductions are expected through natural attrition and 	

	transfer of personnel to other positions supporting essential national security needs.	
Savannah River Site	<p>Center of Excellence for Operations involving large quantities of Tritium enhanced by:</p> <ul style="list-style-type: none"> • Tritium production, R&D, and supply management facilities • R&D to support gas transfer system design <p>Changes:</p> <ul style="list-style-type: none"> • Few immediate changes to site infrastructure as currently planned. • Over next decade, up to 5% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	
Y-12 National Security Complex	<p>Center of Excellence for Uranium and Canned Subassemblies enhanced by:</p> <ul style="list-style-type: none"> • Highly Enriched Uranium (HEU) storage and component manufacturing facilities • Non-HEU component manufacturing facilities. <p>Changes:</p> <ul style="list-style-type: none"> • Completion and use of Highly Enriched Uranium Materials Facility • Special nuclear material consolidated: <ul style="list-style-type: none"> • 90% reduction high security area • 60% reduction nuclear operations footprint 	<p>Changes:</p> <ul style="list-style-type: none"> • Completion of Uranium Processing Facility • Completion of a Consolidated Manufacturing Complex Facility

	<ul style="list-style-type: none"> • 50% reduction total building footprint (~3.1 million GSF gone including Production Bldg 9201-05 (613 GSF); Production Bldg 9212 (440K GSF); Production Bldg 9204-04 (313K GSF)) • Over next decade or so, up to 20% to 30% fewer staff supporting nuclear weapons activities. These reductions are expected through natural attrition and transfer of personnel to other positions supporting essential national security needs. 	
Kansas City Plant	<p>Center of Excellence for Non-Nuclear Production enhanced by:</p> <ul style="list-style-type: none"> • Updated non-nuclear component manufacturing facility • Expanded outsourcing of components <p>Changes:</p> <ul style="list-style-type: none"> • Proposed implementation of Kansas City Responsive Infrastructure and Manufacturing Sourcing (KCRIMS): • 67% reduction of the building footprint funded by NNSA's weapons account • 15% increase of the component outsourcing percentage <p>Over a decade or so, up to 30% fewer staff supporting nuclear weapons activities.</p>	

STAFF REDUCTIONS

Chairman Visclosky. You are going to reduce staff over the next ten years. Provide a list of expected reductions per year, in total and at each site.

Mr. D'Agostino. Attached is a list of estimated reductions in the staff that support the Weapons Activities Account (Directed Stockpile Work, Campaigns, Readiness in Technical Base and Facilities, Facilities and Infrastructure Recapitalization Program, Environmental Projects and Operations, Secure Transportation Asset, Defense Nuclear Security, Cyber Security, and Other Weapons Activities) over the next ten years in total and by site. We rely on and evaluate each of our managing and operating (M&O) contractors to manage the site workforce, therefore specific reductions or the final size of the workforce at each individual site will depend on the composition of its work-for-others portfolio supporting other important national security missions, and the site workforce skill mix to support the National Nuclear Security Administration. At the national security laboratories, Weapons Account Activities are typically in the range of 50-60% of the total budgets, while the percentage of Work for Others is much smaller at our plants.

Our preference is to have the M&O contractors manage staffing changes in a steady and controlled manner. As shown in the attached table, the staffing reductions are targeted to be less than 3% annually which we plan to accommodate through natural attrition or transfers of personnel to complementary national security missions. However, circumstances for an individual site may result in larger changes in a given year. For example, Lawrence Livermore National Laboratory recently received approval on a workforce restructuring plan, which when earlier voluntary (215) and proposed involuntary (535) separations are combined, may result in up to 750 career-indefinite employees departing the laboratory in Fiscal Year 2008. Half of those employees were likely supporting Weapons Activities Account tasks.

Hearing Date/Question Number: April 2, 2008 / Question 7

Weapons Activities Account – Estimated Managing & Operating Contractor Staff Reductions Over Next Ten Years 2007 to 2017				
Site	Total % Target	Annualized % Target	Fewer Total Number of People Over 10 Years Projected to Support Weapons Activities Account	Note
Kansas City Plant	30%	3%*	600 to 800	*2012 occupancy of new facility enable reductions in earlier years
Lawrence Livermore National Laboratory	20%	2%	800 to 1000	Mission consolidation and overhead reductions (Weapons Activities Account only)
Los Alamos National Laboratory	20%	2%	1000 to 1400	Mission consolidation and overhead reductions (Weapons Activities Account only)
Nevada Test Site (NSTech & Wackenhut)	Up to 20%	1% to 2%	200 to 400	Mission consolidation and indirect efficiencies
Pantex Plant	5% to 10%	Up to 1%	150 to 300	Overhead reductions and footprint/security consolidation
Sandia National Laboratories	20%	2%	900 to 1200	Mission consolidation and overhead reductions (Weapons Activities Account only)
Savannah River Plant	<5%	<1%	0 to 100	Overhead reductions only
Y-12	<10%* After UPF, Y-12 target is ~30%	1%	150 to 400	*Y-12 total staffing is projected planned to reduce more than 30% after occupancy of UPF (now past 2018). Overhead reductions only through 2017.
Total			3800 to 5600	Y-12 reduction post-UPF occupancy is not included.

STAFF REDUCTIONS BY ATTRITION

Chairman Visclosky. I am concerned about your strategy of reduction through natural attrition. We want to attract and hold the best and the brightest young scientific talent. But under your strategy of attrition, how are you going to have places for bright young people? And how are you going to have rapid promotion opportunities for them?

Mr. D'Agostino. We have stated a goal of reducing the workforce supported by Weapons Activities Account funding by 20-30% over the next 10 years. This would be an average reduction of 2-3% per year, which is less than the expected rate of attrition or the rate at which personnel could be transitioned to complementary national security work. In addition, the demographics of our workforce dictate that we will have to actively recruit and hire bright young people to retain critical skills, even with a smaller total work force. For example, we propose to reduce our non-nuclear production workforce at the Kansas City Plant (KCP) from about 3000 to 2000 over the next five years. However, the demographics of KCP personnel lead to projections that we will need to hire about 400 new employees just to maintain the end target of 2000. Thus, we expect continued hiring and promotion opportunities across the nuclear weapons complex that will enable us to attract and retain the best and the brightest young scientific talent.

Hearing Date/Question Number: April 2, 2008 / Question 8

CONSOLIDATION

Chairman Visclosky. You've provided a chart showing the consolidation of functions to independent centers at each site from present to some unspecified future time. What is the future time represented on this chart? Please provide one chart of this type for each of the next ten years for each facility.

Mr. D'Agostino. The previously provided chart depicts the mission redundancies throughout the nuclear weapons complex that frequently require major facilities for support. This chart illustrates the National Nuclear Security Administration's preferred alternative to consolidate supercomputing capability platform hosts from three to two sites; consolidate major environmental testing facilities from three to one site; consolidate hydrodynamic testing from five sites to two sites in the near-term (and longer term to one site—the Nevada Test Site (NTS)); consolidate the high explosives (HE) research and development (R&D) and testing footprint in place at five sites; consolidate plutonium facilities working with large quantities of material that are costly to secure from two sites to one site; and consolidate tritium R&D operations from two sites to one site. In the preferred alternative, many of these are near-term actions and would be completed as follows: consolidation of major environmental testing facilities by 2010; consolidation of hydrodynamic testing at two sites (Los Alamos National Laboratory and the NTS) by approximately 2015; consolidation of the HE R&D and testing facilities footprint by 2010; and consolidation of tritium R&D operations by 2012. The hydrodynamic testing and HE R&D and testing are reflected as high hazard testing in the chart. The consolidation of supercomputing capability-class platform hosts is expected by 2010. The preferred alternative is still being evaluated in the National Environmental Policy Act process and supporting economic studies. Specific charts for the next ten years for each facility will be developed following completion of these analyses in fall 2008.

Hearing Date/Question Number: April 2, 2008 / Question 9

LIVERMORE DENUCLEARIZATION

Mr. Visclosky. Can the movement of SNM out of Livermore be accelerated? What is the cost of acceleration?

Mr. D'Agostino. I have already directed that de-inventory of the category level I and II special nuclear material from the Lawrence Livermore National Laboratory be accelerated from 2014 to 2012. We have not yet completed the planning for the accelerated program, so at this time I cannot provide specific costs.

Accelerated completion of the de-inventory activities by 2012 will put significant strain on the laboratory resources – for both infrastructure and staff – and it will be a considerable accomplishment for the laboratory to complete this effort on schedule. We will continue to look for opportunities to further accelerate this effort.

Hearing Date/Question Number(s): April 2, 2008/Question 10

NEW CAPITAL INVESTMENTS

Chairman Visclosky. You say the “*Defense Programs budget has been essentially flat for several years and we need to be able to re-invest near-term cost efficiencies into one-time capital projects to achieve long-term cost reductions.*”

NIF, DAHRT, MESA, ASCI, are significant capital projects for NNSA. Let’s take those four projects, and please provide me with the following updated information:

- Current construction schedule;
- When NIF, 2-axis DAHRT, and MESA be in full operation;
- How much schedule slippage there has been on each;
- When each will reach design life or become obsolete and be shut down; and
- A table listing original acquisition cost projections, current acquisition cost projections, and cost growth for each

Let’s look at the cost estimates I have of some major DOE projects when they were first proposed to Congress compared to the current estimates.

National Ignition Facility (NIF):

Original cost estimate:	\$1.107 billion
Current estimate:	\$3.502 billion
Cost increase:	\$2.428 billion (226%)

Construction completion:

Original:	October 2003
Current:	March 2009
Schedule slip:	5 1/2 years

Dual Axis Radiographic Hydro Test Facility (DAHRT), 2-axis system:

Construction completion:

Original:	2003 (Dual Axis capability)
Current:	2009 (Dual Axis capability)

Schedule slip:	6 years
Original cost estimate:	\$260 million
Current estimate:	\$350 million
Cost increase:	\$90 million

Microsystems and Engineering Sciences Applications (MESA)

Construction completion:

Original: January 2009

Current: January 2009

Total Project Cost estimate:

Original: \$400 million

Current: \$518 million

Cost increase: +\$118 million (29.5%)

Advanced Simulation and Computing Initiative (ASCI)

- Initiative proposed in 1995.
 - FY 1996 – FY 2007 ASCI appropriations: \$5.99 billion provided for developing super computing capabilities at the weapons laboratories.
- ASCI - FY 2008 request: \$586 million

Mr. D'Agostino.

National Ignition Facility (NIF): NIF will provide the only access to thermonuclear burn conditions for the U.S. nuclear weapons program. Experiments in this regime are vital to maintaining the U.S. nuclear weapons stockpile in the absence of underground nuclear testing. In particular, NIF is uniquely suited to provide access to the physical phenomena of ignition and thermonuclear burn which is at the heart of nuclear explosions and the most important remaining question in weapons physics.

Congressional line item construction began in Fiscal Year (FY) 1996, and early experiments utilizing a portion of the laser system have already begun. Important data relevant to weapons issues have been obtained in these experiments. Operation of NIF at full capability is projected for the second quarter of FY 2009, with \$57 million required for the completion of the NIF Project in FY 2009. The original Critical Decision (CD)-4 (Approve Start of Operations) for the NIF Project occurred in the third quarter of FY 2002. There are two reasons for the slippage. The first occurred during title one design review of the NIF Project when additional functional and technical capabilities, such as not to preclude direct drive and a second target chamber plus some other technical enhancements, were added to the NIF Project design criteria. The second was attributed to the underestimation of the original NIF Project contingency and the complexity of the unique infrastructure design that necessitated the assembly and installation of the laser system in an ultra-clean environment. These changes plus the requirement to limit the annual funding to no more than \$150 million a year caused the NIF Project to be extended for an additional four years to the fourth quarter of FY 2008. In FY 2005 the NIF Project received a directed change from Congress through the decrease in funding authority during FY 2005. This change added an additional \$54 million and six months to the NIF Project completion date.

Assuming a 30 year life, the projected life cycle cost was approximately \$5.7 billion in FY 2008 dollars. The current life cycle costs are projected to be \$7.8 billion in FY 2008 dollars. The main reason for the cost changes are the construction costs of the NIF

Project. No changes to the life cycle costs are attributed to the operations of the NIF in the projected 30 year operating period from commencement of operations in 2010. The NIF Laser System is intended as a long term national capability. There is no plan for its shutdown.

Dual Axis Radiographic Hydrodynamic Test (DARHT) Facility: The project for the 2nd axis of DARHT included the second electron beam accelerator which was to be installed in the second accelerator hall. The second machine, necessary to complete the essential dual-axis configuration of the facility, was being built in a sequential manner, allowing it to take advantage of engineering and scientific advances that have occurred since construction of the first machine. The Total Estimated Cost (TEC) of capital portion was \$154 million. Physical construction was completed on time (fourth quarter of FY 2002), and the project received approval to start operations (CD-4) in the second quarter of FY 2003. CD-4 was approved by the Deputy Secretary of Energy as the Secretarial Acquisition Executive for DARHT project.

In April 2003 the project team initiated the startup operation process for the DARHT 2nd axis. During the startup process, the injector cells and accelerator cells began experiencing high voltage breakdowns at voltages below their design levels that needed to be resolved for the cells to meet the design intent. The National Nuclear Security Administration (NNSA) initiated the DARHT 2nd Axis Refurbishment and Commissioning Project (heretofore referred to as Refurbishment) in FY 2004. The project TEC is \$60.953 million and the Total Project Cost (TPC) is \$89.8 million, with a completion date of the third quarter of FY 2008.

As of the end of March 2008, the project has completed all its major milestones and the project completion, CD-4b (all refurbished components will be in place and full beam energy and performance will be attempted for the first time), is scheduled to be approved by the end of April 2008. DARHT will be fully operational by the end of 2008. The design life for DARHT is expected to be 30 years from the full operational date.

Microsystems and Engineering Sciences Applications (MESA) Project: In FY 2001, the TEC range for MESA of between \$350 million to \$400 million was a rough-order-of-magnitude estimate, based on the pre-conceptual design. FY 2003 was the first time construction funds for the project were included in the President's budget, which showed the TEC to be \$453 million, the TPC, (which include both the capital and expense costs) to be \$504 million, and showed the physical construction completion to be the fourth quarter of FY 2009. However, these cost estimates and completion date were based on the as-yet-not approved performance baseline.

After an external independent review team validated the project performance baseline, the performance baseline for the project was approved on October 8, 2002, by the Secretary of Energy. The approved project performance baseline, which first appeared in the FY 2004 President's budget, was: TEC: \$462.5 million; TPC: \$518.5 million; and physical construction completion in the third quarter of FY 2011. Due to Congressional action, the funding for MESA was accelerated, and the project will be completed in the

fourth quarter of FY 2008 with significant cost savings due to the accelerated schedule and reduced costs for some of the MESA components. MESA will be in full operations in FY 2009, and the design life is expected to be 30 years from that date.

	Original Cost Projection *	Current Cost Projection *	Growth
NIF	\$1,046 M	\$2,095 M	\$988 M
DARHT (Both Axes)	\$259.7 M	\$320.7 M	\$61.0 M
MESA	\$462.5 M	\$450 M (est.)	Savings of \$12.5 M

*Defined as TEC

Accelerated Strategic Computing Initiative (ASCI): In contrast to NIF, DARHT, and MESA, the ASCI and its successor, the Advanced Simulation and Computing (ASC) program, is not a capital investment program. The ASC program represents the entire computational science effort at the NNSA labs, of which computers are only a part.

Over the past 12 years the Program has supported the development and deployment of state-of-the-art simulation tools that are now critical to warhead certification and assessment, life extension programs, Significant Finding Investigation resolution, and the overall assessment of our Nation's stockpiled weapons throughout the weapon lifecycle from their transportation to dismantlement. ASC includes modern performance, safety, manufacturing, and engineering codes; high-fidelity physics and engineering models; code and model validation against full-scale, sub-critical, and small-scale experimental data; remote computing and visualization capabilities; supercomputing platforms and facilities; and user support for hundreds of lab and university users. It also leverages other government, industry, and university partnerships and international collaborations.

ASC has pioneered cost-effective, low-power, small-footprint designs, that are subsequently emulated both nationally and internationally. Attached is a table showing our annual budget profile for the capability platforms, along with the respective delivery dates and peak performance of those platforms.

The multi-year computer procurements essential to the NNSA mission are timed to ensure that the supercomputing capability for the Complex remains available without disruption for mission-critical work.

The ASCI program also directed and partially funded construction of four computing and simulation-based facilities all meeting performance goals and delivered within budget and schedule. These facilities are:

- Nicholas C. Metropolis Modeling and Simulation Center at Los Alamos National Laboratory, \$93 million, completed more than \$13 million under budget and several months ahead of schedule. Construction was completed in 2002.

- Terascale Simulation Facility at Lawrence Livermore National Laboratory, \$91 million, completed ahead of schedule and within budget. Construction was completed in 2004.
- Joint Computational Engineering Laboratory at Sandia National Laboratories (SNL) (New Mexico), \$30.8 million, completed on time. Construction was completed in 2004.
- Distributed Information Systems Laboratory at SNL (California), \$36 million. Construction was completed in 2004.

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Advanced Simulation and Computing Platforms

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Platform Investments (\$M)	18.1	66.6	42.5	119	83.8	28.6	69.3	131.2	71.8	92.1	83.9	42.7	44.6	25.9
System Delivered (status)		Red (retired)		Blue Pacific (retired) Blue Mountain (retired)		White (retired)	Q (retired)			Red Storm (active) Blue Gene/L (active) Purple (active)			Road-runner (operations in 2009)	
Peak Teraflop Performance: Original (Upgrade)		1 (3)		3 3		12	20			40 (124) 367 (596) 100			1400	

DUAL AXIS RADIOGRAPHIC HYDRODYNAMIC TEST (DARHT) FACILITY

Chairman Visclosky. You have, within the past two months, sent me two inconsistent plans for DARHT.

In written answers to questions posed by my staff, last night we received the following, *"We foresee no technical issue that would drive and end of life for ... DAHRT... although thirty years is a nominal number... We are not proposing to leave DAHRT before the end of its useful life.... We presently have no plans for a future replacement capability"*

But then in your *"Vision Preferred Alternative Brief"* Pre-decision Working Draft of December 2007, you say *"DAHRT is closed in 2025 timeframe as a next-generation facility is operational at NTS"* – that is, the National Test Site in Nevada. So on the one hand, you clearly say you're going to operate DAHRT at least thirty years, and on the other hand, you say you're going to close it in 17 years.

- Which is correct?

Mr. D'Agostino. The Dual Axis Radiographic Hydrodynamic Test (DARHT) Facility is a key element of our hydrodynamic testing (hydrotesting) capabilities and strategies for maintaining a safe, secure, and reliable nuclear deterrent. As described in the National Nuclear Security Administration's (NNSA) Draft Supplemental Programmatic Environmental Impact Statement (SPEIS), NNSA's preferred alternative for hydrotesting is to consolidate and reduce operations in place, i.e., plan for consolidation at the Nevada Test Site (NTS) in the 2025 timeframe or later. Between now and the 2025 timeframe, we anticipate that additional programmatic and/or site-wide environmental and business case analyses will be completed before there is a decision to establish a DARHT-like capability at NTS. As a result, the two statements provided to you are consistent in their intent, but said in a different manner, i.e, the intention is not to leave DARHT until the 2025 timeframe or later.

We continually plan to conduct our national nuclear security mission in the most effective manner. Therefore, if in the future we determined that newer facilities at the NTS will be the most cost-effective approach for conducting hydrotesting, the decision will be made with Congressional consent and approval.

As you know, hydrodynamic testing is the execution of high-explosive-driven experiments to assess the performance and safety of nuclear weapons. These large scale hydrodynamic experiments utilize test assemblies that are representative of nuclear weapons but with the fissile material in an actual weapon altered or replaced with surrogates. A suite of high performance diagnostics (including high speed cameras, high energy radiography, and fiber optic and electrical-based measurements) are used to understand the hydrodynamic behavior of a simulated nuclear weapon primary implosion.

Chairman Visclosky. I've heard the next generation machine discussed as an improbable option for the future, but this is the first time I've seen it set out as an explicit

intent, with a time frame. After we've paid for this new generation of super machines, I see no case whatever for building a next-generation machine. So tell me, what determines its expected end of life? Will it wear out, or just become no longer useful?

Mr. D'Agostino: Most complex technical systems have a design life, typically 25 to 30 years, and an economical life, which may be shorter than the design life. A key factor in determining the economical "end of life" for any system is the ability to maintain and operate the system reliably and cost effectively. In most cases, manufacturers stop producing spare parts, therefore, the system cannot be properly maintained to reliably perform its designed function. In other cases new technologies become commercially viable that would render the old system obsolete and not cost-effective to operate.

Chairman Visclosky. Why are you looking at a plan to shut it down when you haven't even completed it?

Mr. D'Agostino: The DARHT 1st Axis has been in operation since July 1999 and has provided exceptionally useful information. DARHT 2nd Axis has now been successfully refurbished and commissioned and will soon (by the fourth quarter of FY 2008) be put in operation to provide dual axis x-ray view of test assemblies, which has always been the plan for the dual axis facility. We expect the dual axis system to be operational and provide useful information until the end of its useful life.

Chairman Visclosky. Tell me how much money is in your request for the next generation DARHT and what is the justification for a new facility?

Mr. D'Agostino. As our budget planning covers only the next five year (2010 – 2014) period, we do not have any funds allocated to the next generation of DARHT type machine. If and when the time arrives that we determine the need to plan for consolidating hydrotesting at the NTS, we will follow our established planning and budgeting process and work with Congress to fund the acquisition of the potential system.

Chairman Visclosky. Why not maintain DARHT where it is?

Mr. D'Agostino. The DARHT Facility will remain in its current location until at least 2025. The intent of the preferred alternative in the Complex Transformation Supplemental Programmatic Environmental Impact Statement is not to specify a fixed date for moving DARHT, but rather to imply that its replacement would be decades in the future, and that the preferred location for any proposed new hydrodynamic testing facilities would be at the Nevada Test Site due to the potentially significantly lower costs of providing facilities and space that ensure safe operation of the facility. Between now and the 2025 timeframe, we anticipate that additional programmatic and/or site-wide environmental and business case analyses will be completed before there is a decision to establish a DARHT-like capability at the Nevada Test Site.

SUCCESSION TO NIF

Chairman Visclosky. Do you have plans for a follow-on to NIF? Please provide schedule and cost projections.

Mr. D'Agostino. There is no planned follow-on to the National Ignition Facility (NIF). Because of its flexibility, the NIF can be upgraded during its lifetime to provide additional capability such as operation at higher energy if a new requirement would be defined. For example, if NIF were operated at 527 nm (green light) rather than at 351 nm (blue light), as currently configured, the energy could be increased from 1.8 to about 3.6 megajoules. Conversion of the light at target chamber center from blue to green could be done at a relatively small cost since this conversion requires elimination of the frequency tripling crystal, replacing the frequency doubling crystal with a thicker crystal, and replacing the final focusing lens with one that would be appropriate for green light. Currently, no stockpile stewardship experiments require operation at this higher energy level.

Other enhancements could include converting more of the beamlines to propagate shorter pulses, picosecond rather than the nominal nanosecond pulses. This change could significantly improve the Advanced Radiographic Capability, which allows experimenters to "see" through more dense material. There are currently no schedules or costs projections for the enhancements to the NIF described above.

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SUCCESSOR TO Z

Chairman Visclosky. Do you have plans for a follow-on to Z? Please provide schedule and cost projections.

Mr. D'Agostino. At the current time, we believe that Z at Sandia National Laboratories in New Mexico will be able to support all projected nuclear weapons stockpile assessment and certification requirements that can be answered with pulsed power, and thus we have no plans to construct a follow on to Z. The Z machine provides exquisite, highly reproducible materials data over a broad suite of temperatures and pressures as well as potentially providing inertial confinement fusion with high yield using pulsed power.

Hearing Date/Question Number: April 2, 2008 / Question 16

NEW MAJOR MACHINE

Chairman Visclosky. Do you have plans for another major device comparable to NIF, DARHT, and Z in cost and significance?

Mr. D'Agostino. The National Ignition Facility, the Dual Axis Radiographic Hydrodynamic Test Facility, and the Z machine are all major experimental scientific capabilities that are designed to produce physical data that is needed to assess stockpile performance. There are currently no plans within the Fiscal Year 2009-2013 Future Years Nuclear Security Program to pursue development of an experimental capability that is comparable to any of these major devices.

Hearing Date/Question Number: April 2, 2008 / Question 17

PIT MANUFACTURING AND PIT CERTIFICATION

Chairman Visclosky. Last year the Committee reduced the requested \$282,230,000 for pit manufacturing and certification by \$150,000,000, in light of the ad hoc management and budgeting approach in upgrading plutonium operations in Technical Area 55 that ensured unnecessary expenditure and insufficient accountability. The Committee said it would not continue to fund activities that are not part of a clearly articulated facilities strategy. The Committee said it would not support modernization in place for the current nuclear weapons stockpile, including specifically how plutonium facilities factor into supporting the future stockpile and the Complex 2030 vision.

Now of course we have 2017 instead of 2030. We have your December 2007 draft vision. But it has only one sentence (Page 22) on this subject: *“Los Alamos Technical Area 55 is the plutonium center.”* Would you expand on whatever efficiencies have been implemented within the last year?

Mr. D’Agostino. In TA-55 at Los Alamos National Laboratory we have significantly reduced the amount of special nuclear material at risk to potential accidents, projectized the pit production activities and met or exceeded all program goals for Fiscal Year (FY) 2007 and are on track to meet FY 2008 milestones.

The long-term vision of Complex Transformation has not changed, which is to create a smaller, safer, more secure, and less expensive enterprise that leverages the scientific and technical capabilities of the workforce, and meets national security requirements. The emphasis on 2017 results from a shift in focus to critical infrastructure elements that will be required regardless of the composition of the future stockpile. Consequently, we focused more on what would be done over the next ten years (2017) that would contribute significantly to our long-term goals for the Complex.

The preferred alternative in the Draft Complex Transformation Supplemental Programmatic Environmental Impact Statement is: “Plutonium Manufacturing R&D: Los Alamos (50/80 Alternative) would provide up to 80 pits per year enabled by construction and operation of the Chemistry and Metallurgy Research Replacement—Nuclear Facility (CMRR-NF). Other national security actinide needs and missions would be supported at TA-55 on a priority basis (e.g., emergency response, material disposition, nuclear energy).” The pit manufacturing capability in the preferred alternative is based on recent discussions with the Department of Defense and expectations of what stockpile level post 2012 would need to be supported. Achievement of that capability at Los Alamos and TA-55 as the plutonium center requires sufficient analytical chemistry and vault space support in the CMRR-NF, as well as other supporting facilities, such as the Radioactive Liquid Waste Disposal Facility and Transuranic Waste Disposal Site. For this reason, the earliest availability of an 80 pit per year capability would be based on the availability of required supporting facilities.

Hearing Date/Question Number: April 2, 2008 / Question 18

CHEMISTRY AND METALLURGY RESEARCH REPLACEMENT (CMRR) PROJECT

Chairman Visclosky. Last year the Committee recommended no funding for the Chemistry and Metallurgy Research Facility Replacement. We stated that the project as currently designed will strongly prejudice any nuclear complex transformation plan. We directed NNSA to develop a long-term plan to maintain the stockpile that does not assume an *a priori* case for the then-current plan for an aggressive new warhead design. The Committee noted that it did not support construction of this or any other project that failed to strictly adhere to DOE Order 413.3 by abbreviating the process. The Committee particularly noted the excavation of 90,000 cubic yards of soil under an abbreviated process.

Now I note that your December 2007 Vision paper has CMRR listed but with no explanation. Has the Congressional direction regarding Order 413.3 been followed to the letter?

Mr. D'Agostino. The planning and execution of Chemistry and Metallurgy Research Building Replacement (CMRR) Project conforms to Department of Energy (DOE) Order 413.3 as it has from the project's inception. DOE has no plan for executing CMRR other than in compliance with the Order.

The need for the Nuclear Facility portion of the CMRR does not hinge on whether the United States chooses to deploy a new weapon design. Instead, the need for the CMRR depends on whether the nation chooses to maintain the reliable capability for producing pits for weapons as a function of maintaining its strategic nuclear deterrent. DOE knows all too well the difficulties that attend to re-establishing a capability to make pits given that DOE had to recreate this capability at Los Alamos National Laboratory after the Rocky Flats Plant was shut down. The recreation of this capability was an arduous and expensive process, costing more than \$1 billion. The National Nuclear Security Administration will not decide whether to build the Nuclear Facility until it completes the Complex Transformation Supplemental Programmatic Environmental Impact Statement.

The excavation that has been done at the site of the proposed Nuclear Facility has been performed in the context of site exploration and characterization. A critical issue for the Department on CMRR is correctly mapping the geotechnical strata to assure ourselves, the Defense Nuclear Facilities Safety Board and the public that the proposed Nuclear Facility would not be built over a seismic fault. The exceptional degree of exploratory excavation work is a result of the complex topography and high seismicity in the immediate vicinity where the Nuclear Facility would be sited. As a result of the excavation and geotechnical mapping, the geologists and engineers have not found any evidence of seismic faulting, and this data and information have been shared with the Defense Nuclear Facilities Safety Board.

DEFECTS IN CURRENT COMPLEX

Chairman Visclosky. If you were to build a complex from scratch today, what would you do differently?

Mr. D'Agostino. In the hypothetical case that we were to build a nuclear weapons complex from scratch today, we would probably do it differently. We would not have special nuclear materials at as many sites as we do today, and we would certainly not build World War II style buildings that are expensive to secure and maintain. We would also likely consolidate operations into fewer sites because of the reduced demands of a smaller stockpile. In addition, we would certainly attempt to minimize the use of hazardous and exotic materials, increase the use of insensitive high explosives and security features, and incorporate a nuclear weapon design that would simplify the manufacture, maintenance and testing processes.

However, we are not starting from scratch. We do have an existing investment in today's facilities and workforce that must continue to support our nuclear deterrent without interruption. While some key facilities must be modernized, we still have billions of dollars invested in existing buildings and trained personnel at our eight major sites that will remain viable for decades into the future. Independent analyses have reinforced our proposed approach to transforming the existing Complex. For example, the Department of Defense Cost Analysis Improvement Group stated in a January 10, 2008, memorandum that: "...modernization of the NNSA [National Nuclear Security Administration] nuclear weapons production complex would be most cost effectively accomplished by upgrading the existing complex as opposed to pursuing the SEAB [Secretary of Energy Advisory Board]-recommended CNPC [Consolidated Nuclear Production Center]."

Hearing Date/Question Number: April 2, 2008 / Question 20

COST COMPARISONS ON MARGIN VS. LEGACY

Chairman Visclosky. In 2006, Dr. Overskei warned that for the legacy stockpile, *"future maintenance and surveillance cost liabilities are unbounded."* And when the news broke last year that we had zeroed RRW, an unnamed NNSA official told the media it will cost more to maintain the legacy stockpile than to switch to RRW. This thesis appears based on the presumed ability of high margin to reduce maintenance cost. What's your quantitative basis for the claim that, in the long run, margin saves more than it costs?

Mr. D'Agostino. The National Nuclear Security Administration has modeled some stockpile scenarios, and the preliminary results indicate that a stockpile based on reliable replacement concepts could be less expensive to maintain than one of Cold War legacy warheads. This analysis looks at the entire nuclear complex. It is based on the number of warheads and different systems that must be maintained for a credible reliable nuclear deterrent, the production capabilities that need to be maintained or re-established, surveillance, transportation, storage and security costs, as well as certification activities. Additional savings could be realized by the elimination of the necessity for some of the exotic or hazardous materials required for the current stockpile. One thing is certain, a stockpile based on reliable replacement concepts would certainly be safer, made secure and easier to maintain.

Hearing Date/Question Number: April 2, 2008 / Question 22

BRICKS AND MORTAR FOR THE RELIABLE REPLACEMENT WARHEAD

Chairman Visclosky. In the RRW-related items in your Budget request to us is there any construction planned?

Mr. D'Agostino. No construction projects are planned for the Reliable Replacement Warhead (RRW) or related activities in the Fiscal Year 2009 budget request. The \$10 million requested is simply to continue the Phase 2A study, and specifically to enable maturation of the RRW design to address system-specific issues raised by the JASON review. In fact, even in our FY 2008 request of \$15M for Phase 2A, no construction for RRW was planned

Hearing Date/Question Number: April 2, 2008 / Question 23

USE CONTROL IN W76 LIFE EXTENSION PROGRAM

Chairman Visclosky. Does the W76 LEP include improved use-controls?

Mr. D'Agostino. The W76-1 Life Extension Program has made some improvements to use control related to both safety and security. A new security feature is the incorporation of an "intent" word to be provided by the submarine fire control to the warhead to allow it to arm for use. The "intent" word is controlled by the submarine crew and cannot be accessed until a launch order is received. This is the first time a "human" intent has been introduced into Submarine-Launched Ballistic Missiles. Additional safety improvements included are modern enhanced nuclear safety systems.

Hearing Date/Question Number: April 2, 2008 / Question 24

PROGRAMMATIC OVERLAP?

Chairman Visclosky. You can make only rough estimates of how long the W76 LEP will take, and what it will cost. But considering the large numbers of these warheads we have, the cost will be substantial.

After the LEP is finished, the W76 still won't have most of the surety and margin characteristics you tell us we need in 21st Century warheads. Are we going to pay to bring the W76s in and LEP them, then turn right around and retire them, if and when we bring on a fully modernized warhead? If I thought we're going to an all-new warhead -- and as I've said, I remain to be convinced that we have a strategy justifying this -- I would have to ask why we're spending on the W76 LEP right now. Why do we need to do both?

Mr. D'Agostino. The completion of the W76 Life Extension Program (LEP) is based on the Department of Defense's (DoD) requirements for total refurbishments. Today, based on the Presidentially-approved Nuclear Weapons Stockpile Plan, the requirements are well established for 13 years with a total cost of \$3 billion. The LEP started in 1998 and addresses material aging issues, limited life component replacement, and incremental improvement in margin and safety and security features. If and when the DoD and the National Nuclear Security Administration move to fully modernized warheads based on reliable replacement concepts, the production planning for any LEP would be modified. However, because of the importance of the W76 to the nation's strategic deterrence, it is still prudent in the near term to proceed with the W76 LEP and address many issues in performance, safety, and security.

Hearing Date/Question Number: April 2, 2008 / Question 26

IS OUR "BEST" WARHEAD OVERTAKEN BY EVENTS?

Chairman Visclosky. The universal criticism of the legacy stockpile is that the weapons were designed to maximize yield-to-weight, but that reduces margin and reliability. The Trident ships are due to begin retirement in ten years, yet you've spent \$1.5B to develop and produce a new pit for the W88 warhead for the Trident II missile, and you're proposing to spend \$199M per year to produce about 30 W88 pits for testing.

- Why do we need to spend that money on a warhead that will have a diminishing number of platforms to put them on?
- Why shouldn't you get your test warheads out of the active force, gradually drawing down the number of active W88s?

Mr. D'Agostino. Based on current Department of Defense (DoD) mission planning, the W88 warhead is fully utilized with 90 percent of the assets deployed. W88 requirements from the DoD are not forecasted to change with a reduced stockpile, and current Trident war planning calls for continued utilization of this warhead for the next three decades. With 90 percent of all W88 warheads deployed, there are insufficient spares available for maintenance, logistics, fleet support and surveillance. As the National Nuclear Security Administration moved to reestablish the nation's pit manufacturing capability, we selected the W88 pit because of its limited supply ratio to deployed weapons.

Without a change to the current Trident planning, we are unable to retire the surveillance warheads. I defer to the Navy and Commander of U.S. Strategic Command for a complete explanation of the Trident submarine's requirements.

Hearing Date/Question Number: April 2, 2008 / Question 27

OBSOLETE AND TROUBLESOME WARHEAD

Chairman Visclosky. The W78 lacks insensitive high explosive and it has other problems. You're asking for \$43M to maintain this weapon for another year. If you keep it going until the notional LEP in 2022, that's maybe \$700M before inflation, and after that we'll have the cost of the LEP that won't solve the weapon's major deficiencies. And then we'll have continuing annual cost for an obsolete weapon. If you had to drop one warhead out of the force, would the W78 be the logical choice?

Mr. D'Agostino. It is possible to incorporate some additional safety and use control improvements through a life extension program. Change-out of the high explosive would require a significant modification of the warhead but might be accomplished under a life extension program. The National Nuclear Security Administration is currently evaluating the degree to which enhanced surety can be implemented under life extension programs versus what could be attained under a Reliable Replacement Warhead (RRW) effort. It is certain that a warhead could be retired from the stockpile if we had the capability to replace it with an RRW type of system. One feature associated with the RRW concept is that they would provide a form, fit, and function capability for a warhead already in the stockpile. For the W78, surety and safety improvements, such as insensitive high explosive, would be gained from this replacement. As for retiring the W78, I defer to the Air Force and the Commander of U.S. Strategic Command for a definitive explanation of military utilization. Retiring the W78 would mean that the U.S. Intercontinental Ballistic Missile force would be totally dependent on a single warhead, the W87, which does not incorporate all modern surety features.

Hearing Date/Question Number: April 2, 2008 / Question 28

Congressional Direction

Chairman Visclosky. For the weapons program, please provide this Subcommittee a detailed reporting documenting the execution status for all of the earmarked projects contained in the explanatory statement accompanying the Consolidated Appropriations Act for Fiscal Year 2008.

Mr. D'Agostino. Provided for the record is a detailed report documenting the execution status of the Congressionally Directed Weapons Activities Projects. Funding provided for each earmark reflects the application of a 1.6% rescission per Section 312 of the Consolidated Appropriations Act, 2008.

Project	Status
Advanced Engineering Environment at Sandia Laboratory (CA, MA)	Funding of \$1,477,539 provided to Sandia Laboratory on 4/9/08.
Atomic Testing Museum in Las Vegas, For Operations and Maintenance (NV)	Funding of \$591,016 positioned at the NNSA Service Center for contract, pending acceptance of proposal submitted by Atomic Testing Museum on 4/7/08.
CIMTRAK Cyber Security (IN)	Funding of \$985,026 positioned at the Y-12 Site Office in March for contract award.
Interagency Advanced Computing Research, Equipment and Facilities at Nextedge Technology Park (OH)	Funding of \$3,940,104 positioned at the Lawrence Livermore National Laboratory and is in the process of being awarded to Lexis Nexis.
Kansas City Plant Multi-Disciplined Integrated Collaboration (MO)	Funding of \$985,026 provided to Kansas City Plant on 3/11/08. KCP is working the award package.
Laboratory for Advanced Laser-Target Interactions (OH)	Funding of \$1,970,052 positioned at the NNSA Service Center in March and is in the process of being awarded to Ohio State University.
National Museum of Nuclear Science and History in Albuquerque, New Mexico for the Museum Site (NM)	Funding of \$738,770 sent to Sandia Site Office in late March to prepare procurement documents for award to the Museum.
Nevada Test Site for Operations and Infrastructure Improvements (NV)	Funding of \$17,730,469 provided to Nevada Site Office on 3/11/08 for operations and infrastructure improvements.
North Dakota State University (Fargo) to Support Computing Capability (ND)	Funding of \$7,880,209 positioned at the NNSA Service Center in March for contract award. Pending programmatic review.
Northwest Indiana Computational Grid at Notre Dame and Purdue Calumet	Procurement documents prepared on 4/7/08 and forwarded to the Acquisition

Universities (IN)	Department of the NNSA Service Center for contract awards: \$2,364,062 to Notre Dame and \$3,546,094 to Purdue.
Secure Wireless Devices and Sensors (IN)	Funding of \$246,257 positioned at the NNSA Service Center in March for contract award.
Technical Product Data Initiative (OH)	Funding of \$985,026 positioned at the NNSA Service Center in March for contract award. Additional details on intended recipient provided by the House Appropriations Committee, Subcommittee on Energy and Water Development. Procurement documents are in preparation to contract with IntelliTech Systems, Inc.
University of Nevada-Las Vegas for In-situ Nanomechanics (NV)	Funding of \$344,759 positioned at the NNSA Service Center in March for contract award. Contact has been initiated with UNLV.
University of Texas in Austin, Texas, to Complete the Construction of the Petawatt Laser (TX)	Procurement documents prepared and forwarded to the Acquisition Department of the NNSA Service Center for contract award of \$3,447,591 to the University of Texas at Austin.

Hearing Date/Question Number(s): April 2, 2008/Question 29

PROVIDING THE SUBCOMMITTEE WITH THE ANNUAL ASSESSMENT

Chairman Visclosky. The National Defense Authorization Act of 2003 requires you to deliver to Congress an annual assessment of the nuclear stockpile. The Act doesn't define what body of Congress it should be delivered to. We request that a copy be delivered to this Subcommittee.

- Will you do that?
- It was due on March 15. Is it completed?
- The idea that later is better on this report troubles me on two counts:
 - First, because the guts of this report, all the meaning, is in the letters from the three lab directors. It's those letters, plus the COMSTRAT report that isn't under your purview, that we really need. They don't get better with age. They are due to the Nuclear Weapons Council December 1, and have always been delivered on time. By law, after December 1 they may not be altered. So you could keep them for a hundred years, and they wouldn't get any better because you can't change them. All you can change is the cover letters and the executive summary.
 - Second, how can we ask for strategy if things change every week? The delay from December to March in the law is bad enough, but if you stretch it out into more months, or even a year as has happened, it becomes obsolete. I've heard of the entire package, including the primary documents that don't change, being delayed for months because of minor wording disputes, and because of disagreements within NNSA and the Department.
- What can you do to improve this situation and ensure that the report is here on time?

Mr. D'Agostino. The National Defense Authorization Act for Fiscal Year 2003 requires that the Secretary of Energy and Defense submit the report on Assessments to the President by March 1. The President shall forward the report to Congress by March 15 of each year.

The Department and our laboratories have completed their assessments. However, the report is still in coordination within the Nuclear Weapons Council and between the Department of Defense and Department of Energy. The White House will deliver the annual assessment report to Congress when this action is complete.

I agree that the reports should be submitted in a timely manner. Once the U.S. Strategic Command Commander and National Laboratory Directors' assessments are delivered to the Nuclear Weapons Council, they do not change; however, the coordination between the Council members and its subcommittees takes time as much of this is to ensure that all relevant agencies understand the implications of what is in the assessment. I will commit to work within my Department to streamline processes and expedite coordination within my Department, but significant collaboration is required outside of our Department after our National Laboratories have completed the Assessment.

INFRASTRUCTURE AND ENVIRONMENT

Mr. Hobson. Mr. D'Agostino, your outyear funding needs for the Facilities and Infrastructure Recapitalization Program (FIRP) and Transformation Disposition Program are projected to take a significant leap in FY 2010 and then level off after.

Mr. Hobson. What would happen in FY2010 to require such a leap?

Mr. D'Agostino. The outyear funding level for the FIRP is not a leap, but rather the funding level required to meet its established goal to reduce complex-wide deferred maintenance to industry standards. These outyear estimates are consistent with the program's extension to 2013, and reflect projectized workload projections that are coordinated with NNSA's complex transformation planning. The outyear estimates for FIRP are in overall balance within NNSA's Future Years Nuclear Security Program.

Regarding the Transformation Disposition (TD) program, the funding level requested for initial implementation in FY2009 is consistent with the projects proposed by the Site Office managers and validated by my staff. NNSA is asking to fund only the projects for which we have high confidence of executing during the initial year of TD. The increase in the FY 2010 indicates that the program will be ready to execute an increased number of projects from the integrated and prioritized list of projects that are appropriately scoped and costed, and reflect a reasonable schedule.

Mr. Hobson. Should these investments be more smoothly ramped up?

Mr. D'Agostino. NNSA believes that the current request is appropriate for the work being proposed, and is in balance overall with NNSA's projected program funding needs throughout the five year period.

Mr. Hobson. Are you simply delaying investments needed today?

Mr. D'Agostino. Not at all. FIRP has been recapitalizing the complex on a priority-based plan since 2001. The focus on the elimination of deferred maintenance backlog is first on our mission critical facilities, and followed by mission dependent facilities, all balanced within our overall facilities and program priorities.

Hearing Date/Question Number(s): April 2, 2008/Question 31

WORK FOR OTHERS

Mr. Hobson. Mr. D'Agostino, the weapons laboratories aggressively pursue and perform millions of dollars of work for other agencies every year. We're all rightly proud of the expertise that our facilities have developed, and we want to make that expertise available to the rest of the community... when it doesn't detract from the core Weapons mission. We are concerned about whether DOE bears a fair share of the cost for the expansion of lab capacities needed to perform work for other customers:

- When a laboratory accepts Work for Others, does it only do so when it has spare space and workforce? If not, do you ask this Committee for additional up-front funding for additional facilities and hiring new workers?

Mr. D'Agostino. Department of Energy (DOE) Order 481.1C, "Work for Others (Non-Department of Energy Funded Work)," requires that a determination be made and certified in writing by a DOE or National Nuclear Security Administration (NNSA) contracting officer or an authorized designee that the proposed work will not adversely impact programs assigned to the facility and will not create a detrimental future burden on DOE/NNSA resources. NNSA would not be responsible for providing additional up-front funding for additional facilities and hiring new workers as the Work for Others (WFO) customer (other Federal agency) would be responsible for providing all funding for WFO specific capital improvements. Laboratories can only hire personnel to meet known funding levels. Therefore, NNSA would not request additional up-front funding for additional facilities and hiring new workers for WFO specific project requirements. However, in order to enable the NNSA complex to continue to address complex threats to our national security, a more systematic and enduring approach to leveraging the national laboratories' unique capability for higher-priority national security challenges is essential to the nation. To be able to contribute its unique capabilities, NNSA intends to partner with other Federal agencies with national security responsibilities to direct and support the underlying science, technology and engineering development, rather than just soliciting funding for individual projects.

Mr. Hobson. Does NNSA recover 100 percent of the costs of doing work for other agencies, including a contribution toward the cost of capital improvements?

Mr. D'Agostino. DOE Order 522.1, "Pricing of Departmental Materials and Services," requires that for materials and services provided to other Federal and non-Federal agencies and entities, the Department will charge full cost, which includes direct costs incurred in performing work, and allocable costs incurred by the Department and its contractors at DOE/NNSA facilities. Such full cost would include appropriate contributions toward the cost of capital improvements which are normally covered by overhead costs. These overhead costs would not include costs associated with major construction projects. Capital improvements related to a specific WFO project would be paid for by the WFO customer. Many of the WFO projects provide a mutual benefit to NNSA and to the other Federal agencies, especially in areas relating to leading edge science and research programs. As a result, NNSA shares in some of these costs. However, in the case of other non-mutual benefit WFO projects, NNSA recovers costs to the maximum extent allowed by law.

Mr. Hobson. Do the laboratory contracts impose any sort of ceiling on how many personnel each lab may employ? While I can understand why an individual laboratory may want to grow in the future, is it in the best interests of the Department or the taxpayer to see these labs grow?

Mr. D'Agostino. The laboratory contracts do not impose a ceiling on how many personnel each lab may employ. Laboratory growth for the sake of growth is not a goal of the Department. However, our laboratories have long been recognized as a national resource that should be available to help other Federal agencies meet their national security needs. If the NNSA Complex has capabilities that can provide an effective response, then the NNSA Complex should be considered as one tool for meeting these types of challenges. For example, the enabling legislation for the Department of Homeland Security (DHS) established a special relationship between our two agencies to ensure DHS access to the laboratories in order to help DHS carry out its critical national security missions. The DOE laboratories must continue to effectively execute the missions of DOE, but should also make their unique and specialized capabilities and facilities available to non-DOE sponsors in their role as a national resource.

Mr. Hobson. If a laboratory increases its staff to support work for other customers, and then those staff are no longer needed — is NNSA responsible for all of the severance costs associated with those employees? Is that fair, when these employees were hired by the laboratory primarily to support non-NNSA work?

Mr. D'Agostino. NNSA laboratories would be responsible for the severance costs associated with the layoff of permanent lab employees who are primarily used to support WFO. However, severance costs are frequently collected as part of an overhead account under generally accepted accounting principles. In the situation where severance costs are charged to an overhead account, such charges for costs would be equitably allocated to all agencies whose direct costs are included in the base for the overhead pool (which would frequently include WFO customers). Therefore, WFO customers would likely pay a share of these costs.

Severance cost are frequently treated as an indirect cost because the costs and effort associated with assigning and collecting cost responsibilities for severance payments for long term employees could be burdensome. For example, in a situation where a long term employee is let go, and that employee had worked on a WFO project for another agency several years ago (or even several decades ago), it may be impracticable to try to collect from the other agency their proportionate share of severance costs attributable to this particular employees on that WFO project.

Therefore, these severance costs would be reimbursable under the contracts with the NNSA laboratories. However, NNSA would not be solely responsible for paying such severance costs. Also, NNSA laboratories would not be responsible for providing severance to employees who are employed under limited term appointments or other staff augmentation contracts and are subsequently separated.

OVERHEAD RATES

Mr. Hobson. What are the overhead rates at your weapons laboratories?

Mr. D'Agostino. The indirect costs at the weapons laboratories consist of three categories: fringe benefits, overhead, and general and administrative costs.

Fringe benefits expenses normally include items such as leave, holidays, insurance, payroll taxes, retirement plans, and plan administration. Fringe benefits rates range from 26% to 35%. Overhead expenses normally include items such as professional technical support costs, direct supervision, utilities, rents, supplies, maintenance, and repair costs. Overhead expense rates range from 34% to 46%. General and Administrative expense normally include items such as overall management, administration, procurement, education, and training. For the final indirect cost category, General and Administrative, expense rates range between 36% and 39%.

Mr. Hobson. What percentage did the weapons labs charge for LDRD in Fiscal Year 2007, and what will they charge in FY 2008?

Mr. D'Agostino. The Fiscal Year (FY) 2006 Energy and Water Development Appropriations Act, Public Law 109-103, Section 311, raised the maximum Laboratory Directed Research and Development (LDRD) funding level to 8 percent, and the National Nuclear Security Administration (NNSA) LDRD program generally charges the full percentage allowed by Congress. However, actual LDRD program assessment rates for the NNSA laboratories are significantly less than the maximum allowable 8 percent because of DOE-approved exemptions to the LDRD program assessment and to prevent over costing of the LDRD program due to uncertainties of projected laboratory costs. As a result, in FY 2007, the weapons laboratories charged the following rates as a percentage of total costs: Los Alamos National Laboratory (6.81%), Lawrence Livermore National Laboratory (6.30%), and Sandia National Laboratories (6.6%). Similar rates are anticipated in FY 2008, and are based upon estimated laboratory budgets

Mr. Hobson. What steps are you taking to reduce these overhead rates?

Mr. D'Agostino. The National Nuclear Security Administration (NNSA) has modified its fee policy to provide incentive fees to laboratories for reducing overhead costs. In addition, the NNSA Field Chief Financial Officer has established a cost reduction team composed of federal and laboratory personnel who are examining methods of indirect and direct cost reduction, as well as communicating lessons learned across laboratories. The objective of this team is to produce reduced annual operating costs at the laboratories in both the direct and indirect cost areas. Smaller facility footprints, shared administrative services, subcontracted administrative services and consolidated (enterprise) purchasing, and grouped employee benefits are some initiatives under consideration.

Mr. Hobson. What is an equitable distribution of these overhead costs when the labs are doing work for other agencies and other parts of DOE?

Mr. D'Agostino. The equitable distribution of these overhead rates will vary according to the specific laboratory, and the specific laboratory organizational elements performing the work as the weapons labs are required to distribute these overhead costs in accordance with their National Nuclear Security Administration approved accounting procedures. Such procedures must conform

to generally accepted accounting principles, produce accurate results, and provide the necessary Department of Energy (DOE) financial reports. Such contractor accounting systems must not conflict with DOE Order 534.1B, *Accounting* or the *DOE Accounting Handbook*.

Hearing Date/Question Number: April 2, 2008 / Questions 33-36

CONTRACTOR PERFORMANCE

Chairman Visclosky: Mr. D'Agostino, how does DOE institutionalize its knowledge of contractor performance across different programs? For example, one of the key competitors for the Los Alamos and Livermore contracts had substandard performance on non-NNSA contracts at Hanford and in Nevada, but it is not clear that the NNSA selection officials considered this performance when making their award decisions. Your office has informed Committee staff that contractor performance is monitored by NNSA using a database maintained by the National Institutes of Health. However, it is unclear how, if at all, this information is ever used.

How and where in the Department does knowledge on contractor performance come together to make better-informed contract award decisions in the future? How does NNSA require its selection panels to use this information? Is previous contractor performance a mandatory component of new selection criteria? If so, what weight is it given?

Mr. D'Agostino: NNSA always considers relevant past performance in the selection of its contractors in accordance with the Federal Acquisition Regulation 15.305(a)(2). Information is obtained through the National Institute of Health past performance database, information required to be submitted by the offerors, and relevant information obtained from other sources. The weight given to past performance varies for each source selection, but is always an important consideration and has in some instances been the deciding factor.

Hearing Date/Question Number(s): April 2, 2008/Question 37

CONTRACTOR REPORT CARDS

Mr. Hobson. Mr. D'Agostino, the Office of Science recently released a "report card" on the performance of its ten laboratories. It is useful to have this information publicly available, and to be able to compare contractor performance with contractor fees earned. This enables everyone, both in Congress and the public, to understand how DOE contractors are performing and how that performance relates to their compensation.

- Why doesn't NNSA issue a similar "report card" on the performance of its weapons labs?
- Even our weapons labs should have specific performance goals. Wouldn't such transparency be a useful tool to know where labs are falling behind, or where they're excelling?

Mr. D'Agostino. The National Nuclear Security Administration (NNSA) does have a similar "report card" where the performance of the Weapons Labs is "recorded". We use an average percentage (0-100%) report in lieu of a letter grading system (see attached).

Our weapons labs and plants have specific performance plans that are prepared for every fiscal year. As established by their contract, these performance plans are reviewed and validated in collaboration with the Headquarters Program Officials, the NNSA Site Managers and the management and operating contractors. In addition, the portion of each site's Award Fee earned annually is based upon an agreed-to number of priority objectives compared to performance at the end of the performance period, normally the end of the fiscal year. Finally, the contractors, site offices and Headquarters participate in Quarterly Performance Reviews and other monitoring sessions which give all of management an overview of the status of their performance objectives.

Fiscal Year 2007 Management and Operating Contractor Award Fees
for National Nuclear Security Administration Sites

Site	Total Fee Available	Fee Determining Official Determination	Total % Earned
Los Alamos National Laboratory	\$73,279,996	\$58,208,986	79.4%
Lawrence Livermore National Laboratory	\$7,100,000	\$6,749,500	95.1%
Sandia National Laboratories	\$23,962,976	\$23,214,830	96.9%
Nevada Test Site	\$23,060,224	\$19,264,822	83.5%
Pantex Plant	\$33,395,888	\$30,676,159	91.9%
Kansas City Plant	\$26,748,000	\$25,405,000	95.0%
Y-12 National Security Complex	\$45,794,393	\$37,772,999	82.5%
Savannah River Site	\$8,440,000	\$8,355,000	99.0%

DISPOSITION OF EXCESS SPECIAL NUCLEAR MATERIAL

Mr. Hobson. Mr. D'Agostino, at a couple of recent hearings we have questioned why the Department does not have a nationwide "master plan" showing the types, quantities, schedule and final disposition for all materials intended for consolidation and disposal. These would be the radioactive wastes resulting from your cleanup activities as well as special nuclear materials that are being consolidated for security, safety, or economic reasons. Now it's your turn. Offices like NNSA and Environmental Management offer us their piecemeal plans for moving material and cleaning up sites, but no one has shown us the master plan or "flow chart" that shows how all these pieces fit together. Now we're told that such a plan doesn't exist, but that you're developing one...at least for NNSA. Frankly, this is shocking. I can not fathom how NNSA could undertake, with any sense of responsibility, such an complex and sensitive task without a graph of how all the many pieces are fitting together...or NOT fitting together.

What is the status of your so-called "disposition map"?

Mr. D'Agostino. The Department has established a DOE and NNSA integrated program committee, with representatives from all stakeholder offices within the Department. This committee, chaired by NNSA's Principal Deputy Administrator, will develop disposition plans for the eight highest priority isotopes and sites in the Department. I anticipate that all of these plans will be completed this year. These plans will be used as the springboard to develop a single comprehensive materials disposition plan that will be in place to support the Department's FY 2010 Congressional budget request.

Mr. Hobson. Which office is charged with developing the map?

Mr. D'Agostino. At the direction of the Deputy Secretary, I have established an office within the NNSA, the Office of Nuclear Materials Integration, which has the responsibility of compiling and integrating this plan.

Mr. Hobson. How will it take into account commitments made by Environmental Management, if at all? Which office within DOE, in any, is charged with integrating NNSA and DOE plans? If that integration task is not currently being done, which office in DOE should have this responsibility?

Mr. D'Agostino. This new NNSA office will have the authority and responsibility to integrate all special nuclear material disposition plans within the Department, including those managed by the Office of Environmental Management. We are updating the DOE's nuclear material management Order to document these authorities and responsibilities.

Hearing Date/Question Number(s): April 2, 2008/Question 39

EM PREPAREDNESS FOR ACCEPTING Y-12 EXCESS FACILITIES

Mr. Hobson. The NNSA plans for some aggressive consolidation of the Y-12 site, yet we see no evidence that the Environmental Management program is prepared to assume any responsibility for the handoff of additional contaminated facilities from the NNSA.

Mr. D'Agostino. While it may appear to some that NNSA and EM are not fully coordinated, the fact is that both organizations are working together pursuing the primary mission of each and collaborating in the execution of shared missions. This is the case regarding the NNSA's intent to affect consolidation of the Y-12 site. Appearing before your subcommittee recently, Assistant Secretary Jim Rispoli was asked a similar question. His response, quoted here, confirms awareness of the NNSA's plans for Y-12 and the engagement of our staffs in working to a solution. "Our current out-year planning and our current baselines do not assume transfer of additional facilities at Y-12 and ORNL. However, the Office of Science and the National Nuclear Security Administration (NNSA) are working with the Environmental Management (EM) program to plan the effort commonly called the Integrated Facility Disposition Project on the Oak Ridge Reservation. The scope of this project will address 228 additional facilities that have yet to be transferred to EM, as well as, the 176 excess facilities at Y-12 and ORNL currently in the scope of the EM program, but awaiting decommissioning." I concur with Mr. Rispoli's expression of coordination between the NNSA and EM.

Hearing Date/Question Number(s): April 2, 2008/Question 40

PIT DISASSEMBLY AND CONVERSION FACILITY

Mr. Hobson. Mr. D'Agostino, the Pit Disassembly and Conversion Facility is touted by NNSA and DOE as an integral part of our material consolidation strategy. However, I continue to have significant questions about the analysis that NNSA underwent to determine its location. I know that the final decision hasn't yet been made to locate it at the Savannah River Site, and I do hope no one tries to move forward soon.

Let me refresh my colleagues' memories a bit. PDCF is required to take excess pits and break them down into oxides that can be used by the MOX plant at Savannah River for new fuel for power plants. The problem is, if the PDCF is constructed at Savannah River, intact pits will have to be transported from Pantex to South Carolina – nearly 1,300 miles. We have our doubts if that is the best way to proceed.

Mr. Hobson. Mr. D'Agostino, has NNSA evaluated the cost effectiveness of locating PDCF at Pantex instead of SRS, and transporting MOX powder to SRS instead of intact pits?

Mr. D'Agostino. Yes, the Department considered cost effectiveness and other factors as part of an extensive analysis conducted in compliance with National Environmental Policy Act requirements to determine where to locate plutonium disposition facilities, including the Pit Disassembly and Conversion Facility (PDCF). With regard to transportation costs, it is true that transporting plutonium powder to the Savannah River Site (SRS) rather than intact pits would be more economical because fewer shipments would be required. However, the Department's analysis demonstrated that this cost savings is negligible compared with the cost of constructing the necessary infrastructure at Pantex. The National Nuclear Security Administration continues to evaluate a range of options for providing plutonium oxide to the Mixed Oxide Fuel Fabrication Facility from dismantled nuclear weapon pits.

Mr. Hobson. What criteria are in favor of placing PDCF at SRS? At Pantex?

Mr. D'Agostino. The Department's decision to build the PDCF at the SRS was carefully made after an extensive environmental, cost, and nonproliferation analysis which was conducted in compliance with National Environmental Policy Act requirements, following numerous public meetings and hearings. The criteria in favor of locating the PDCF at SRS were SRS's experience with plutonium processing, extensive existing infrastructure, and complementary missions. The criteria in favor of placing the PDCF at Pantex were the existing security infrastructure and the cost avoidance of packaging and transporting pits from Pantex to SRS.

Mr. Hobson. What criteria are against placing PDCF at these two options?

Mr. D'Agostino. Factors against placing the PDCF at Pantex include lack of experience in chemical operations and handling plutonium in other than pit form and limited physical infrastructure for processing special nuclear materials and treating radioactive waste. By comparison, SRS has extensive experience with chemical operations, handling plutonium in various forms, and treating radioactive waste. The main argument against placing PDCF at SRS is that the surplus pits would have to be shipped from Pantex to SRS.

Mr. Hobson. How did NNSA weight these criteria?

Mr. D'Agostino. The decision to locate the PDCF at SRS was announced in a Record of Decision for the Surplus Plutonium Disposition Final Environmental Impact Statement, dated January 11, 2000. In making the decision about where PDCF should be located, the Department of Energy considered existing infrastructure, experience with handling special nuclear materials, and complementary missions.

Mr. Hobson. How many more or fewer trips between Pantex and SRS would NNSA have to make if PDCF were placed at Pantex?

Mr. D'Agostino. As part of the 1999 Surplus Plutonium Disposition Environmental Impact Statement, the Department conducted an analysis that showed that approximately 11% fewer trips would be required if the PDCF were located at Pantex rather than SRS because it is more efficient to ship plutonium oxide than plutonium pits. The Department is developing a new shipping container that, when certified, will make shipping plutonium oxide significantly more efficient. As a result, we would expect there to be a larger difference (i.e., fewer shipments) if the PDCF were located at Pantex, this shipping container were used and the amount shipped per trip optimized.

Mr. Hobson. If PDCF is at SRS, would NNSA have to develop additional security measures to ensure pits could not be stolen intact?

Mr. D'Agostino. No, regardless of whether the PDCF is located at SRS or Pantex, the PDCF would require the same level of security.

Mr. Hobson. How would your Secure Transportation budget be affected between these two options?

Mr. D'Agostino. Regardless of whether the PDCF is located at SRS or Pantex, the Secure Transportation budget is not expected to change. The Department's Secure Transportation Asset Advisory Board prioritizes among Defense Programs, Defense Nuclear Nonproliferation, Environmental Management and other organizations to deconflict the requirements levied on the Office of Secure Transportation. This smooths significant fluctuations in shipping demands, thereby enabling operations in a stable funding environment.

Mr. Hobson. Please provide a detailed analysis comparing these two options.

Mr. D'Agostino. This analysis appears in the Surplus Plutonium Disposition Final Environmental Impact Statement, dated January 11, 2000, which can be found at: <http://www.eh.doe.gov/nepa/eis/eis0283/eis0283.htm>. There are also two related cost reports: *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium*, dated July 1998 and *Plutonium Disposition Life Cycle Costs and Cost Related Comment Resolution Document*, dated November 1999.

Mr. Hobson. If the NNSA has not already completed an objective analysis of these two options, who should this Committee task (at NNSA expense) to prepare such an analysis? Would the Cost Analysis and Improvement Group at DoD be the right entity to perform such analysis? Does the NNSA already have an agreement in place to enable the tasking and transfer of funds to the CAIG?

Mr. D'Agostino. As stated previously, the Department of Energy has completed an objective analysis of these two options, as well as other options, for the location of the PDCF.

Hearing Date/Question Number: April 2, 2008 / Question 41

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Concurrences:

NNSA GC 4/23/08

NA-60 4/xx/08

NNSA CI 4/xx/08

COMPETITION

Mr. Hobson. Mr. D'Agostino, our weapons labs are positioning themselves for work historically performed by universities, the private sector, or our non-weapons labs. As you're aware, this committee has been increasingly uncomfortable with the privileged positions some of our labs have assumed that they hold at the federal funding trough. In fact, in order to stimulate innovation this year we are now requiring that labs compete with academia and the private sector in a few non-weapons programs.

- If our weapons labs want to do non-weapons work, is there any legal reason why they may not compete with the private sector, academia, and non-weapons labs for that work?

Mr. D'Agostino. There are limitations that inhibit our laboratories from competing with private sector, academia, and non-weapon laboratories. These limitations are based on the following:

- a. The National Nuclear Security Administration (NNSA) weapon laboratories are Federally Funded Research and Development Centers (FFRDCs). According to the Economy Act of 1932 (31 U.S.C. § 1535) and Federal Acquisition Regulation (FAR) 35.017 (Federally Funded Research and Development Centers), FFRDCs may perform work for other than the sponsoring agency under the Economy Act, or other applicable legislation, when the work is not otherwise available from the private sector.
- b. FAR 35.017 -1 C(4): "A prohibition against the FFRDC competing with any non-FFRDC concern in response to a Federal agency request for proposal for other than the operation of an FFRDC" is one of the requirements must be identified in the sponsoring (e.g., NNSA) agreement to a FFRDC, or in the sponsoring policies and procedures.
- c. DOE Order 481.1C, Work for Others (Non-Department of Energy Funded Work), Section 4.a explicitly states, "In operating DOE/NNSA [FFRDCs] or other facilities, a contractor may not respond to Requests for Proposals or other solicitations from another Federal agency or non-Federal entity that involves head-to-head competition as an offeror team member, or subcontractor to an offeror."

Work for Others at NNSA sites is principally to provide assistance to Federal and non-Federal entities (e.g., industry and academia) in accomplishing goals that may be otherwise unattainable, to avoid duplication of effort at Federal facilities, and to provide access to these entities to highly specialized and unique facilities, services, and/or technical expertise. It also increases the research and development interaction between NNSA and industry to transfer technology originated at NNSA facilities to industry for further development and commercialization.

COMPETITION

Chairman Visclosky. The NNSA Act provides that no NNSA employee or contractor is subject to the authority, direction and control of any non-NNSA DOE official except for the Secretary of the Energy. In the wake of the Wen Ho Lee security scandal, the weapons labs somehow persuaded some in Congress that the underlying problem was not mismanagement at the labs but rather excessive oversight from DOE headquarters. While this streamlined chain of command may make sense for NNSA work, it makes no sense when these same weapons labs want to do work for other DOE programs.

How would this section of law be implemented if a weapons lab were awarded work managed by the Office of Science, for example?

Mr. D'Agostino. The process is set forth in DOE Order 412.1A, Work Authorization System. The laboratory and the Office of Science would prepare a work authorization setting out the objectives of the work, the funding available, schedules, deliverables, and other terms and conditions applicable to the work that are not otherwise established by the management and operating contract between NNSA and the laboratory. Once the laboratory and Office of Science reach agreement on the work authorization, it is forwarded to the NNSA site manager who must determine whether the work can be performed by the laboratory without adverse impacts to the work the laboratory performs for NNSA. If the work authorization is approved, the Office of Science would assign staff to oversee the work; any issues would be forwarded to the NNSA site manager or contracting officer for resolution. While the Office of Science could not direct the laboratory or the NNSA site office in performance of the work, as a customer it has many mechanisms to ensure that the work is performed satisfactorily, including but not limited to withdrawing its funding.

Hearing Date/Question Number(s): April 2, 2008/Question 43a

COMPETITION

Chairman Visclosky. Who would the personnel at the lab who are actually performing the work report to?

Mr. D'Agostino. Federal personnel at the laboratory report to the NNSA site manager; contractor personnel report to the laboratory director. The NNSA contracting officer provides direction to the laboratory on behalf of NNSA.

Hearing Date/Question Number(s): April 2, 2008/Question 43b

COMPETITION

Chairman Visclosky. Why should any other office in DOE, such as the Office of Science or the Office of Energy Efficiency and Renewable Energy, send one penny of their program funds to weapons laboratories that are by law not subject to the authority, direction and control of those program offices?

Mr. D'Agostino. Because NNSA's laboratories perform superior, and in many cases unique, research and development and have access to facilities not found elsewhere in the Department or the world. Many DOE offices take advantage of these capabilities.

Hearing Date/Question Number(s): April 2, 2008/Question 43c

ARMY CORPS OF ENGINEERS

Mr. Hobson. Mr. D'Agostino, I find it interesting that the Department is relying increasingly upon the Army Corps of Engineers. The Corps has played a significant role in environmental cleanup, and in fact one of DOE cleanup programs, FUSRAP was actually transferred to the Corps. In the NNSA mission, the Corps has helped with independent cost validation for the Elimination of Weapons Grade Plutonium Production in Russia. Now the Committee has learned that NNSA has asked the Corps to manage construction of the Pit Disassembly and Conversion Facility (PDCF).

- Why did you ask the Corps to manage PDCF?

Mr. D'Agostino. As part of its decision to select a Pit Disassembly and Conversion Facility (PDCF) construction manager, the National Nuclear Security Administration (NNSA) considered a variety of criteria including: experience and capability managing large-scale complex construction projects; access to worldwide technical and engineering resources; ability to respond to NNSA's needs for construction management services in an expeditious manner; and ability to provide sufficient expertise and dedicated staff to oversee a project of this size and complexity.

Given that there have been very few major nuclear construction projects undertaken in the United States during the last twenty years, there are very few firms possessing this type of specific nuclear construction management experience. We felt it was important to hire an organization focused and experienced in large-scale complex construction, which when combined with the nuclear material processing experience of NNSA and the Savannah River Site (SRS), would provide the best chance of success. In addition, the Corps has committed to take significant steps to ensure that it hires experienced nuclear personnel to work beside and mentor experienced Corps construction personnel.

Mr. Hobson. What is the Corps expertise with the handling of plutonium and of weapons pits?

Mr. D'Agostino. As stated previously, the Army Corps of Engineers has expertise in handling large, complex construction projects of various kinds which they will apply to this type of facility. The real need for plutonium and weapons pits handling experience is with the facility designer and eventual greater, neither of which is the Corps responsibility. However, the Corps has assured me that they will make special efforts to hire experienced nuclear personnel to work beside and mentor experienced Corps construction personnel to ensure full understanding of the design requirements.

Mr. Hobson. How will the Corps be able to operate as an effective construction manager when the Corps does not hold the contract for the PDCF? What authority will the Corps have over an NNSA contractor?

Mr. D'Agostino. The NNSA and the Corps have signed an Interagency Agreement in which the Corps will serve as the construction manager for the PDCF project, providing construction oversight, management, procurement, and other related functions. Washington Group International, the PDCF designer, will continue in that capacity. This Interagency Agreement will enable the Corps to operate as an effective construction manager because it gives the Corps the authority to manage the construction of the PDCF, which will include hiring and overseeing sub-contractors.

ENHANCED SURETY

Mr. Hobson. Mr. D'Agostino, your FY2009 budget request included \$10 million for "enhanced surety" for warheads.

- How much would it cost to incorporate all technically feasible surety measures into forward deployed warheads?
- Into warheads not continuously warehoused or supervised in a U.S. military installation, except for normal surveillance and LEP activities?

Mr. D'Agostino. The Enhanced Surety sub-program of the Engineering Campaign develops and matures modern weapon safety and use-control technologies. The Department's request in Fiscal Year (FY) 2009 for this sub-program is essentially the same as the funding that resulted from the FY 2008 Consolidated Appropriations Act.

All of the technologies being developed through this sub-program are targeted for the next insertion opportunities into weapons in the stockpile. Included are advanced firing-sets and strong-links, surety sensors, power management, and advanced use-denial technologies. All of these technologies are technically feasible and are being matured at a pace intended to allow them to be chosen by the weapon system manager, with manageable cost risk, based on Department of Defense (DoD) requirements.

The forward-deployed weapons based overseas at North Atlantic Treaty Organization bases already contain capable surety features. However, the surety themes for these weapons were designed in a different era for protection against different threats rather than for currently postulated threats of the post-9/11 environment. Current threat scenarios are more robust and must consider possible thefts and suicide attacks or detonations "in-place." To protect against these contemporary threats, somewhat different surety themes and architectures are needed to increase the time it may take for an adversary to achieve deliberate unauthorized use.

The Department has not developed detailed cost estimates to incorporate these enhanced surety features under development into forward deployed weapons. Such cost estimates will vary and depend on the specific work scope and will be determined through the Phase 6.2/6.2A design definition and cost studies conducted jointly with the DoD. Some legacy stockpile weapons are easier than others to incorporate and certify surety features into; others, due to tight performance margins and limited weight and space, do not allow many options to improve their surety.

Hearing Date/Question Number: April 2, 2008 / Question 44

LANL SPACE AND DEFENSE PROGRAMS

Mr. Hobson. Mr. D'Agostino, please give us an update on the NNSA space and defense programs currently operating at Los Alamos.

- Is this program continuing to support NNSA's core mission?
- How many FTEs at Los Alamos are dedicated to these space and defense programs? What fraction of the square footage of the bays at TA-55 are dedicated to these non-NNSA missions?
- If no, is there another part of DOE which should assume control of the program?

Mr. D'Agostino. A small element of the Plutonium-238 (Pu-238) mission at Los Alamos National Laboratory (LANL) is part of the National Nuclear Security Administration core mission. As a part of the Defense Programs surveillance program, existing milli-watt generators containing Pu-238 are tested for electrical operability. Some of the units are designated for destructive analysis which includes metallographic examination of the heat source within the generator.

Approximately 42 full-time-equivalents (FTEs) currently support the Defense Programs and non-Defense Programs Pu-238 missions at LANL, of which 4 FTEs support the Defense Programs surveillance program. Pu-238 operations comprise 13.5% of the approximately 60,000 square foot operating floor space in Technical Area 55 Plutonium Facility 4 (TA-55/PF-4).

Hearing Date/Question Number: April 2, 2008 / Question 45

ADVANCED CERTIFICATION PLAN

Mr. Hobson. Mr. D'Agostino, in the FY2008 Conference Report, Congress directed the NNSA to submit a spend plan for the \$15 million provided for "Advanced Certification" programs. You had 60 days after enactment to complete it. Where is it?

Mr. D'Agostino. We completed the report in February and I signed the letters of transmittal on February 27, 2008. The reports were subsequently hand-delivered to Congress, including two copies to this subcommittee.

Hearing Date/Question Number: April 2, 2008 / Question 46

Defense Nuclear Security Design Basis Threat Request.

Chairman Visclosky. Mr. D'Agostino, your FY2009 Budget Request includes a new budget line for Design Basis Threat (DBT). According to your justification, this new line incorporates funding previously appropriated in several other lines, which now show cuts. However, these cuts far exceed the amount now in the DBT line.

Please explain the rationale for this net reduction in security spending to comply with the DBT. Is this reduction because the NNSA will be fully in compliance with the latest DBT at all of its sites by the end of Fiscal Year (FY) 2008?

Mr. D'Agostino. No, NNSA will not be in full compliance with the 2005 DBT at all sites until FY 2011. The decrease from FY 2008 to FY 2009 largely reflects non-recurring costs included in the FY 2008 Congressional Budget request for physical security systems upgrades and maintenance. In addition, the FY 2008 appropriation provided funding above the request for additional physical and cyber security upgrades that reduce FY 2009 requirements.

Chairman Visclosky. Please provide, for the record, a comprehensive crosswalk between "Protective Forces," Physical Security Systems," "Program Management," and any other account from which funds were transferred to "Design Basis Threat."

Mr. D'Agostino. The requested crosswalk is provided for the record.

Defense Nuclear Security
(\$ in thousands)

	FY 2008	FY 2009 (old structure)	DBT delta	FY 2009 Request
Protective Forces	439,106	428,529	-9,835	418,694
Physical Security Systems	120,873	83,416	-6,171	77,245
Transportation	1,007	420		420
Information Security	21,072	25,880		25,880
Personnel Security	29,460	31,263		31,263
Matls Control & Accountability	23,978	35,929		35,929
Program Management	82,627	75,349	-3,278	72,071
Technology Deployment	10,000	9,431		9,431
Design Basis Threat			19,284	19,284
	728,123	690,217	0	690,217

Chairman Visclosky. Please provide, for the record, an accounting of the protective forces level supported with the FY2008 appropriation and that which would be supported by the FY2009 budget request.

Mr. D'Agostino. The authorized protective force staffing level for FY 2008 is 2,560 and for FY 2009 it is 2,503.

Hearing Date/Question Number(s): April 2, 2008/Question 47

INCREASE IN NUMBER OF EMERGENCY RESPONSES

Mr. Hobson. Mr. D'Agostino, your budget request for "Nuclear Weapons Incident Response" supports the deployment of operational teams to national security events. In addition to political events such as the State of the Union, these events include sporting events and other significant public gatherings.

Has the number of these events increased in recent years?

Mr. D'Agostino. The number of National Security Special Events, as designated by the Department of Homeland Security, tends to be about ten to twelve each year and, although the number may vary somewhat, does not increase dramatically year-by-year because these tend to be well-established events that take place every year, or, if not every year, on a regular basis (like the State of the Union Address, or the political conventions).

Overall, however, the number of our deployments has increased, by about 80% since 9/11 – to approximately 130 deployments per year.

Mr. Hobson. How much will it cost to deploy teams to the 2008 Summer Olympics in Beijing?

Mr. D'Agostino. We estimate that the cost to the emergency operations office for deploying teams to the Beijing Olympics will be about \$480,000. Other components of NNSA also provide support.

NUCLEAR WEAPONS INCIDENT RESPONSE R&D

Mr. Hobson. Mr. D'Agostino, your budget request for "Nuclear Weapons Incident Response" notes that a significant portion of your out-year growth would be to support scientific breakthroughs for the "Render Safe" Research and Development and Technical Integration programs.

Are these programs cooperative with the Office of Science, or operated entirely separately?

Mr. D'Agostino. These programs are operated by the Office of Emergency Operations in conjunction with NNSA's Office of Nonproliferation Research and Development.

Within the non-weapons programs, the Office of Science and the applied research programs are cooperating to identify areas where they can be mutually supportive. Would such an approach help your office to meet its goals.

Wide cooperative efforts would not be desirable or feasible in this case. The type of research taking place in the render safe program is generally highly classified and requires a high degree of very specialized expertise that has been developed within the weapons program.

NATIONAL NUCLEAR SECURITY ADMINISTRATION (NNSA) COMPLEX
TRANSFORMATION

Congressman Hobson. Can you please explain how a decision on transforming the complex can be made when there is still no national policy on what our strategic nuclear weapons posture should be?

Mr. D'Agostino. On March 27, 2008, the Department of Defense (DoD) delivered to Congress a classified white paper titled *National Security and Nuclear Weapons in the 21st Century*. This paper was signed out by both Secretary Gates and Bodman. This paper is the follow-on to an unclassified paper provided Congress in July 2007 titled *National Security and Nuclear Weapons: Maintaining Deterrence in the 21st Century*. Together these white papers detail the national security requirements for nuclear weapons, the rationale for the size of the operationally deployed force and the size of the nuclear stockpile and factors that may drive stockpile size in the future.

Congressman Hobson. This Subcommittee has asked the Department and DOD to develop such a policy. What is the status of that effort?

Mr. D'Agostino. On March 27, 2008, the Department of Defense (DoD) delivered to Congress a classified white paper titled *National Security and Nuclear Weapons in the 21st Century*. This paper was signed out by both Secretary Gates and Bodman. This paper is the follow-on to an unclassified paper provided Congress in July 2007 titled *National Security and Nuclear Weapons: Maintaining Deterrence in the 21st Century*. Together these white papers detail the national security requirements for nuclear weapons, the rationale for the size of the operationally deployed force and the size of the nuclear stockpile and factors that may drive stockpile size in the future.

Hearing Date/Question Number(s): April 2, 2008/Question 50, 51

NATIONAL NUCLEAR SECURITY ADMINISTRATION COMPLEX TRANSFORMATION

Mr. Hobson. Mr. D'Agostino, in December 2007, the Department of Energy's (DOE) National Nuclear Security Administration (NNSA) issued its draft Supplemental Environmental Impact Statement (SEIS) on transforming the nation's nuclear weapons complex. A final decision has been promised for the end of fiscal year 2008.

Your draft SEIS contains many interesting proposals to consolidate uranium and plutonium processing in different configurations. The Consolidated Nuclear Processing Center idea, for instance, would have all of these materials in one place, where they can be more easily guarded and where they would pose a much smaller risk to the environment and the public. We need more thinking like this.

In fact, Mr. D'Agostino, the Overskei Report last year recommended that all weapons manufacturing be consolidated into one center, with significant cost and security benefits. Your draft preferred alternative for complex consolidation would take the farthest extreme and keep manufacturing scattered among many existing sites.

- Why is NNSA's recommendation so radically different than that of this distinguished group?
- Specifically, which components of Overskei's analysis do you disagree with?
- Please provide for the record DOE's cost-benefit analysis specifically comparing the Overskei recommendations with DOE's draft preferred alternative. This analysis shall clearly explain why the draft preferred alternative is superior to the Overskei report's recommendations.
- Has the NNSA cost analysis of the alternatives been verified by an independent entity such as the CAIG?

Mr. D'Agostino. The Overskei Report pointed out the advantages in security and operating costs to consolidate the major nuclear manufacturing facilities and assembly/disassembly in one location. We agree that consolidation would generate cost savings in the long term. However, we are starting with an existing Complex and not a clean sheet of paper. Consequently, we must consider how our mission is supported during any transition and the value of infrastructure and trained workforce at existing sites that would have to be replaced if we consolidated to fewer sites.

In support of the current activities related to Complex Transformation, we had independent business case analyses performed to compare the costs of the various consolidation proposals in the Complex Transformation Supplemental Programmatic Environmental Impact Statement. These analyses have been provided to the offices of our four Congressional committees and are available to the public at www.complexttransformationspeis.com. One basic difference between the Overskei analysis and the independent business case analyses are in the estimates of the time and cost to construct the new facilities. This leads to a much longer payback period after the transition. We asked the Department of Defense Cost Analysis Improvement Group (DoD/CAIG) to review the consolidation alternatives as well. The CAIG stated in a January 10, 2008, memorandum that: "modernization of the NNSA nuclear weapons production complex would be most cost effectively accomplished by upgrading the existing complex as opposed to pursuing the SEAB-recommended CNPC."

Mr. Hobson. The draft SPEIS calls for the construction of several large expensive facilities at various NNSA sites across the country. Given the downward-revised requirement for the pits, it

looks like the plutonium operations could conceivably be continued at an enhanced Los Alamos operation.

- What similar decisions need to be made before NNSA can make a final decision on the location of the Uranium Processing Facility?
- What factors would contribute to keeping the uranium facilities at Y-12?
- What changes would Y-12 have to make before it could become the uranium center of the future?
- What factors would contribute to relocating the uranium facilities at a different location?

Mr. D'Agostino. Before the National Nuclear Security Administration (NNSA) can make a final decision on the location of the Uranium Processing Facility (UPF), we need to clearly understand the costs and risks of moving to alternative locations versus the potential for significant savings from such re-locations. This comparison is also dependent on our evaluations of how long the existing facilities could be sustained pending their replacement.

The current Manhattan Project-era facilities at Y-12 are well-beyond their design lifetimes and expensive to secure against modern threats. Significant investment would be required to bring these old facilities up to modern safety and security standards to use them for an extended period. The NNSA is currently conducting an in-depth business case analysis as a follow-on to the Draft Complex Transformation Supplemental Programmatic Environmental Impact Statement (SPEIS) for the specific purpose of determining the most advantageous location for the Uranium Processing Facility. The results of this analysis will play a significant role in determining the best location for NNSA uranium center. We are evaluating a variety of discriminating factors, such as operational and security costs, programmatic requirements (Life Extension Programs, Dismantlement and Quality Evaluation, Naval Reactor Programs, etc.), transition time frames relating to moving manufacturing processes from the current Manhattan Project-era facilities to the modern UPF design, and meeting current Design Basis Threat scenarios. The goal of this business case analysis is to provide a solid evaluation of alternative sites from which to choose the best location for the UPF.

Minimizing the cost of transitioning from existing, outdated facilities at Y-12 to smaller, modern, and less expensive facilities would contribute to keeping the uranium center at Y-12. The site has natural advantages in an existing trained workforce and a significant amount of support infrastructure that should remain viable for decades into the future. The cost and risk benefits of these advantages need to exceed the potential savings from consolidation at another location.

Y-12 is our current uranium center and will have to remain a safe, secure, and cost-effective alternative to retain that position into the future. Our uranium center at Y-12 would only be relocated to a different location if there was a significant cost and risk benefit of doing so. Our initial business case analysis used to select the preferred alternative in the Draft Complex Transformation SPEIS indicated that Y-12 is the best choice. However, we have elected to perform a more in-depth second analysis because of the importance of this decision.

NNSA PROJECT MANAGEMENT

Outside organizations, such as the GAO, continue to report on difficulties NNSA and DOE have with managing projects within cost, scope and schedule.

Mr. Hobson. What specific actions are you taking to improve project management at NNSA and the Department to ensure that these projects will be completed on time and within budget?

Mr. D'Agostino. One of my top six priorities, known as Special Focus Areas, is to improve project management in the NNSA. I have formed a team, led by members of the Senior Executive Service, that has been working for several months and provided me a "blueprint" for improving project management in the NNSA. I have approved that plan, which includes the following objectives: properly resourcing our projects with qualified personnel; improving the technical requirements definition process; improving our cost estimating capability; improving our acquisition planning/contracting capability; improving our ability to identify and manage project risks, and; clarifying the roles, responsibilities, authorities, and functional accountability of the NNSA individuals involved in planning and executing our construction projects.

I continue to closely monitor the progress and direction of an effort led by the Office of Engineering and Construction Management to conduct a Root Cause Analysis Workshop and to develop a Corrective Action Plan aimed at improving DOE project management. This DOE-wide effort is endorsed by the OMB and the GAO, if successful, will allow the GAO to remove us from their High Risk List for project and contract management. The NNSA has been a major participant in this and we are actually out in front of the rest of the Department in implementing corrective actions resulting from that effort. In addition, we are looking at some alternate models for project construction management, such as hiring the US Army Corps of Engineers to manage construction of the Pit Disassembly and Conversion Facility (PDCF.)

Mr. Hobson. Mr. D'Agostino, are you as the NNSA Administrator receiving monthly, and accurate, earned value reports on all of your major NNSA construction projects? Are you receiving earned value reports on your major operating (i.e., non-construction) projects? If not, why not?

Mr. D'Agostino. Each month, I and all senior NNSA managers receive Earned Value information on all of the line item and operating funded NNSA construction projects. The report contains earned value information on forty-one major NNSA construction projects and is verified and validated by each of my Site Offices. Also included in the monthly report is a status on the number of certified federal project directors managing and available to manage each major NNSA construction project, as well as an indicator of the health of each construction project. Should a project status change and the health of the project come into question, an explanation for the change is noted, a corrective action identified, and follow-up is expected by the next month.

The DOE Office of Engineering and Construction Management requires earned value reporting on only major, line item construction projects. However, the NNSA is proactively pursuing earned value on non-construction projects. Senior staff members from the NNSA are working with the Office of Engineering and Construction Management to review and certify the earned value management systems of all major NNSA contractors. While performing certification reviews, the teams use non-construction projects to verify contractors are using earned value globally. I am proud to say that most of the Earned Value Management Systems of our Management and Operating contractors have been, or are in the process of being, independently validated as being in compliance with the ANSI earned value guidelines for construction projects and environmental projects. In this regard, we are leading the rest of the Department. We are also applying classic project management tools and processes to our operating projects as part of our Enhanced Management initiative in Defense Programs. By using these best practices, we are helping to improve the efficiency and accountability in our non-construction program areas.

Hearing Date/Question Number(s): April 2, 2008/Question 54

RELIABLE REPLACEMENT WARHEAD

Mr. Hobson. Mr. D'Agostino, Congress zeroed out funding for the Reliable Replacement Warhead (RRW) in FY 2008, finding that such activities were premature without a national policy on our nuclear deterrent. Yet, we find that NNSA is requesting about \$40 million in three different areas to support further RRW work.

- Why is NNSA requesting these funds?
- In two separate areas, funding is being requested for the same reason—to answer comments from in the JASON review. What is different about these two funding requests?

Mr. D'Agostino. The funding requests are for related but unique activities. Funding that specifically applies to the Reliable Replacement Warhead (RRW) is located within Directed Stockpile Work (DSW). The \$10 million is requested in Fiscal Year (FY) 2009 to continue the Phase 2A study by enabling maturation of the selected RRW design to address specific design certification issues raised by the JASON review. An additional \$10 million of work on science and engineering certification tools is included in the Science and Engineering Campaigns. This continuing effort to understand weapon performance issues relating to legacy and future systems is focused on resolving stockpile issues and is not RRW-specific.

The last funding area is for \$20 million and deals with the broader issues of certification raised by the JASON RRW review. This work will be performed in the Advanced Certification activity of the Science Campaign, consistent with the FY 2008 Consolidated Appropriations Act.

Mr. Hobson. Mr. D'Agostino, when I was Chairman, I understood that we had essentially a black-and-white choice when it comes to the future of our nuclear stockpile. Either we pursued RRW, with all of the surety and reliability benefits built-in, or we would have a larger, less-secure stockpile whose increasing age would move us toward having to restart active testing. Now, this was some time ago, and yet we're still retreading old ground. As my old friend Yogi Berra once said, "When you come to a fork in the road, take it."

- Have these conclusions changed? Is there another option or another fork in the road that we should be considering?

Mr. D'Agostino. The National Nuclear Security Administration (NNSA) continues to believe that the warhead features characteristic of Reliable Replacement Warhead (RRW) designs are important improvements to increase security and to ensure long-term confidence in warhead reliability and a correspondingly reduced need to carry out a nuclear test to resolve technical issues and therefore, ensuring the future of our nation's nuclear deterrent.

NNSA previously informed Congress that if RRW was not supported, it would need to rely on the strategy of life extensions of Cold War legacy warheads, and that there would be increased risk, absent nuclear testing, in assuring the long-term reliability of that stockpile. The Life Extension Program can not achieve the improved margin and surety attributes of the RRW since those enhancements require remanufacture of the pit.

Staffing of Security Oversight Programs and DOE and NNSA Site and Operations
Offices

Chairman Visclosky. Having sufficient staff to oversee the security programs of its contractors has been a persistent problem. A number of independent assessments have identified challenges regarding DOE's federal security workforce that have made it difficult for the Department to effectively oversee security activities. These challenges include: (1) the number and mix of the federal security staff, (2) the near-term retirement eligibility of a significant percentage of the security workforce, and (3) the lack of professional development and training programs.

What efforts have been taken to improve security oversight at the site office level?

Mr. D'Agostino. In accordance with Public Law 106-65, the Chief of Defense Nuclear Security at the National Nuclear Security Administration oversees the performance of site office and contractor operations to ensure programmatic and security expectations are fully met. Programmatic oversight is executed through the annual Contractor Performance Evaluation process and security oversight is carried out through a rigorous Performance Assurance Program that evaluates the effectiveness of the site office and contractor security programs annually. Security oversight through the Performance Assurance Program is also focused providing the NNSA's and Department's leadership with early and continuous feedback through an annual series of internal self-assessments, site office reviews, and Headquarters formal evaluations.

In May 2007, the Acting NNSA Administrator identified areas in which additional federal management oversight should be applied. The Federal Oversight of Physical Security team was established to refine expectations and practices for federal oversight of the M&O Contractors. The Federal Oversight of Physical Security team completed its review and issued a final report on January 7, 2008, that identified more than 30 individual recommendations that would significantly improve the quality of security oversight. These recommendations are being implemented at the site offices as appropriate. The one overarching action for implementation is defining and promulgating an NNSA risk-based oversight framework that captures the best ideas of the systems in place today. The framework will be specific enough to accomplish the desired outcome, but flexible enough to permit tailoring to each site. It is anticipated that this document will be completed by mid-2008.

Chairman Visclosky. Which NNSA site offices are currently experiencing staffing shortfalls?

Mr. D'Agostino. Currently, all NNSA site offices are experiencing minimal security-related staffing shortages. There are actions in process to hire staff needed to fill the vacancies. However, most security staffs are responsible for multiple programs and maintain a large workload.

Chairman Visclosky. What efforts have been taken to ensure that site office security staff receives ongoing training? Has a professional development program been implemented?

Mr. D'Agostino. NNSA ensures site office's security staffs are fully prepared to execute their program management and oversight responsibilities through the formal security Training and Qualification Program (TQP) and similar programs. To obtain qualification, security personnel must successfully complete 57 required competencies in the areas of physical security, personnel security, information security, and material control and accountability. Once qualified, security personnel are required to re-qualify every three years. Currently in NNSA, there are 34 enrolled in the TQP or similar program, of those, 13 are certified.

Chairman Visclosky. How is DOE determining its long-term security staff needs?

Mr. D'Agostino. Traditionally, DOE security staff have been developed primarily from internal on-the-job training programs of more or less formality and the injection of experienced security personnel from other agencies such as the Departments of Defense, Justice, and Treasury and various state and local law enforcement agencies. Specific topical training has been and continues to be provided by the National Training Center and its predecessors.

The opportunity to support this extensive (and long term) mentoring and on-the-job training practice arose because of the relatively large security staffs at DOE Operations Offices ten to fifteen years ago. These staff sizes have been decreasing for many years and, since the formation of the National Nuclear Security Administration (NNSA) in 1999, have undergone an accelerated staff reduction in response to the NNSA model of reduced Federal oversight of National Laboratories and Management and Operating contractors. As the number of positions decreased, they were increasingly filled by more senior employees who had the training and experience to function alone or with minimal supervision, thereby eliminating the previous growth path for young security professionals.

Today, the Department is transitioning to a new career development model for security staff that emphasizes more rapid growth through a more aggressive use of individual development plans keyed to job task analyses and a greatly increased curriculum at the National Training Center that emphasizes not only technical subjects, but also leadership and management training. However, the Department is facing a significant hurdle in implementing this new process. The limited number of security staff positions within the Department creates an imperative to fill those positions with trained, experienced, and highly professional individuals to provide adequate security policy and day-to-day oversight of the Department's complex security operations. Yet filling the available positions with senior personnel does not allow the hiring and development of the young security professionals who will be needed to succeed current staff within a few years. As a result, the Department's new approach has promise, but creating security

staff positions with a focus on professional development rather than immediate operational necessity remains a challenge.

Hearing Date/Question Number(s): April 2, 2008/Question 57

DOD AND NUCLEAR WEAPONS

Congressman Hobson. Mr. D'Agostino, this Committee continues to struggle with the relationship between DoD and the Department of Energy. In other settings, members of this Subcommittee have even heard the Deputy Secretary of Defense claim he never knew that DOE paid for weapons construction. Given how little regard DoD seems to pay to the Department of Energy's efforts, please explain why this Subcommittee should fund the full costs of nuclear weapons design and production, the full costs to modernize the DOE weapons complex, the full costs for Life Extensions of existing warheads, and even the full costs to dismantle obsolete warheads.

Mr. D'Agostino. The Department of Energy through the National Nuclear Security Administration is responsible for nuclear weapons design, production and eventual dismantlement. In 1947 nuclear weapons development and production was transferred from the Department of Defense to the newly created Atomic Energy Commission in accordance with the Atomic Energy Act of 1946. As the successor to the Atomic Energy Commission, the Department of Energy continues its national security role of developing, manufacturing, maintaining and eventually dismantling nuclear weapons. Our customer, the Department of Defense, is responsible for developing and producing nuclear weapons delivery systems, but not the actual nuclear warhead.

Nuclear weapons continue to be the ultimate guarantor of the nation's sovereignty and are fully supported by the Department of Defense. On March 27, 2008, the Department of Defense (DoD) delivered to Congress a classified white paper titled *National Security and Nuclear Weapons in the 21st Century*. This paper was signed out by both Secretary Gates and Bodman. This paper details the continuing national security requirements for nuclear weapons, the rationale for the size of the operationally deployed force and the size of the nuclear stockpile and factors that may drive stockpile size in the future.

Congressman Hobson. Why isn't DoD, the military customer with the need for nuclear weapons, funding more of these activities?

Mr. D'Agostino. The Department of Energy through the National Nuclear Security Administration is responsible for nuclear weapons design, production and eventual dismantlement. In 1947 nuclear weapons development and production was transferred from the Department of Defense to the newly created Atomic Energy Commission in accordance with the Atomic Energy Act of 1946. As the successor to the Atomic Energy Commission, the Department of Energy continues its national security role of developing, manufacturing, maintaining and eventually dismantling nuclear weapons. Our customer, the Department of Defense, is responsible for developing and producing nuclear weapons delivery systems, but not the actual nuclear warhead.

DOD AND NUCLEAR WEAPONS

Ranking Member Hobson: Admiral Donald, there is discussion about expanding the Navy's use of nuclear power for its surface fleet.

If the decision is made to build more nuclear-powered surface vessels, will Naval Reactors have to design a new reactor, or can you adapt an existing design?

Will the actual costs of producing new reactors for Navy vessels be paid by Naval Reactors in DOE, or by the Department of Defense?

Admiral Donald: Any decision about propulsion type for the next-generation cruiser is on hold until the final decisions in the CG(X) Analysis of Alternatives are made on the ship's mission, capabilities, and the technologies with respect to the radar and missile systems. Should the Navy decide to proceed with nuclear power for CG(X), we currently plan to modify one existing GERALD R. FORD class reactor plant to meet the energy and power demands and naval architecture requirements for a CG(X). Modification of the existing reactor plant will require some redesign work to support insertion in a cruiser size ship. Also, a new design reactor may be required depending on Navy decisions on service life and power/energy requirements for the class.

The Navy will continue to pay for the costs associated with producing and manufacturing components for new reactors.

Hearing Date/Question Number(s): April 2, 2008/Question 58

Congressman Hobson. Why isn't DoD following the same model used by Naval Reactors, where DOE funds the research and development costs and DoD pays for the production costs?

Mr. D'Agostino. The Department of Energy through the National Nuclear Security Administration (NNSA) is responsible for nuclear weapons design, production and eventual dismantlement. In 1947 nuclear weapons development and production was transferred from the Department of Defense to the newly created Atomic Energy Commission in accordance with the Atomic Energy Act of 1946. As the successor to the Atomic Energy Commission, the Department of Energy continues its national security role of developing, manufacturing and eventually dismantling nuclear weapons. Our customer, the Department of Defense, is responsible for developing and producing nuclear weapons delivery systems, but not the actual nuclear warhead. Additionally Department of Defense is responsible for maintain nuclear weapons while in their custody.

The Naval Nuclear Propulsion Program (Naval Reactors) is an integrated program carried out by two organizational units, one in the Department of Energy and the other in the Department of the Navy. Both organizational units are headed by the same individual so that the activities of each may continue in practice under common management. The organization structure and responsibilities are set forth in Executive Order 12344 of February 1, 1982, (42 U.S.C 7158) and section 1634 of the Department of Defense Authorization Act, 1985 (Public Law 98-525; 42 U.S.C 7158). Unlike NNSA's weapons responsibilities, Naval Reactors is responsible for all aspects of management of naval nuclear propulsion plants—design, development, production, operator training, operation and maintenance, and finally decommissioning and dismantlement.

Hearing Date/Question Number(s): April 2, 2008/Question 59

DECLASSIFYING THE NUMBER

Congressman Hobson. Mr. D'Agostino, I have been pushing to declassify the total numbers of weapons in our stockpile for years, and the Administration has resisted declassifying these numbers. I suspect our potential adversaries know the number of U.S. nuclear warheads with much better precision than do the Members of Congress.

Why has the Administration resisted declassifying these numbers so strongly?

Mr. D'Agostino. I have taken steps within the Administration to request that that the total annual stockpile number be declassified while taking into account that any national security potential issues are addressed.

Hearing Date/Question Number(s): April 2, 2008/Question 60

SURETY REQUIREMENTS

Mr. Hobson. Mr. D'Agostino, we appreciate that the Department of Defense provides the specifications for required nuclear weapons, including their surety components, and DOE provides the weapons to meet those requirements. However, given the recent problems that DOD seems to be experiencing regarding the handling of these weapons, I can't help but wonder whether NNSA shouldn't take a more proactive role in ensuring the weapons it provides are properly safeguarded. And by "properly", I mean "to the maximum extent necessary."

- Tell me, is it possible to include too many surety safeguards on our nuclear weapons?
- Has the NNSA ever said to DOD that the surety aspects that DOD has requested are insufficient to adequately protect the weapon?

Mr. D'Agostino. Surety technologies must be implemented as a system such that they work together to provide safety and prevent unauthorized use while still ensuring authorized use. The key point here is that it is a system, and individual surety features, should not be added without careful consideration of the entire system and the implication on military performance, safety, and use control. The baseline designs put forward for the Reliable Replacement Warhead (RRW) demonstrated this system approach by assuring robust safety and use control in systems that met the military performance requirements. As there are constant tradeoffs between security features, performance, cost, etc., it is therefore possible to include too many surety features. The proper balance was obtained with the first RRW design.

Some in the Department of Defense (DoD) prefer security (guards, physical barriers, etc.) to internal weapon feature improvements citing reliability and performance concerns. Surety systems provide protection during both DoD and National Nuclear Security Administration custody of the system, and both Departments have a responsibility to enhance weapon surety features when opportunities, such as major refurbishments or replacement warhead programs, present themselves. All of our weapons were designed well before 9/11; the threat has dramatically changed since that time.

MATERIALS CONSOLIDATION

Mr. Hobson. Mr. D'Agostino, in the FY 2008 Omnibus the Committee provided funding to continue renovation of two buildings at Idaho National Laboratory. The Committee intends these buildings to help the Department with a secure, alternative site for material consolidation. We have been informed that the NNSA does not intend to follow this Congressional direction and would like to transfer this funding to a different project.

The Committee provided these funds for several reasons, including to provide a backup to consolidation plans at the Savannah River Site, and to provide a secure place to store sensitive material before it is moved for the Idaho National Laboratory site.

Why is the NNSA willfully in non-compliance with Congressional direction?

Mr. D'Agostino. Sir, NNSA does not take actions that are in non-compliance with Federal law.

Because NNSA does not have any identifiable mission use for these buildings, which is a essential element of DOE Order 413.3, we are currently reviewing other potential uses for the associated appropriations identified in the report language. The potential uses are for activities of high priority to this Committee, the Department, and the public.

Mr. Hobson. Why does anyone in the NNSA believe they have the discretion to ignore clear Congressional direction?

Mr. D'Agostino. No one in NNSA believes that they have the discretion to ignore clear Congressional direction. Any funding reallocation would be proposed to Congress within the guidelines of the reprogramming.

Mr. Hobson. Are there any other instances where the NNSA is not following Congressional direction for FY 2008, or is it only this House priority that you are ignoring?

Mr. D'Agostino. Congress has recognized, through the existing reprogramming processes, that there are occasional legitimate requirements necessitating changes to Congressional appropriations during the fiscal year. As these situations arise, we will continue to request approval of the cognizant Congressional committees.

Mr. Hobson. It seems that part of your argument for not executing the renovation of these two buildings at Idaho is that the Idaho National Lab is not officially part of the NNSA and that the NNSA has no existing mission at INL.

Is that a correct understanding?

Mr. D'Agostino. No, sir that is not a correct understanding. NNSA has a number of ongoing programs at INL, such as the Naval Reactors program, and in fact, one of the potential uses for the funds requested for reprogramming is for work at INL. We have identified these funds as a potential reprogramming source because NNSA has no mission requirement for these *specific* buildings and it would be inconsistent with DOE Order 413.3 to fund the refurbishment of these facilities.

Mr. Hobson. How would you characterize the Naval Reactors mission at Idaho? Isn't Naval Reactors part of the NNSA, so doesn't that mean that NNSA does already have legitimate mission at Idaho?

Mr. D'Agostino. Yes, NNSA has a number of ongoing mission activities at INL, including support for the Naval Reactors program.

Mr. Hobson. The NNSA is contributing toward the cost of a new building at the Pacific Northwest National Laboratory. Was the PNNL designated in the NNSA Act as part of the NNSA? If not, then it seems you do have the ability to spend NNSA funding at non-NNSA sites.

Mr. D'Agostino. NNSA funds the support of NNSA mission activities at a number of sites not designated by the NNSA Act as part of the NNSA, including the Pacific Northwest Laboratory, the Idaho National Laboratory, and a number of colleges and universities. However, we have no particular mission need for Buildings 651 and 691 in Idaho, and as such, would be entirely inconsistent with DOE Order 413.3 to pay for the refurbishment of facilities for another program's use.

Hearing Date/Question Number(s): April 2, 2008/Question 62, 63

Mr. Hobson. Has the reporting chain for the Corps shifted yet to Nuclear Energy, or is it caught in this embarrassing attempt by the Department to justify holding both PDCF and MOX in NN?

Mr. D'Agostino. Consistent with my direction to transfer the PDCF project from the Office of Defense Nuclear Nonproliferation to the Office of Defense Programs, the reporting chain for the Corps has shifted to Defense Programs.

Mr. Hobson. Are there other components of NNSA's mission that we should be considering asking the Corps to complete?

Mr. D'Agostino. The Corps has been involved in construction programs within the nuclear weapons complex in various capacities over the years, including the construction of nuclear facilities at Los Alamos and Rocky Flats, as examples. The Corps has expertise in providing design and construction management services that NNSA would choose to exploit when appropriate. Currently, the Corps is contributing its expertise to NNSA as the construction manager for PDCF and is providing similar services at Pantex for various projects. NNSA is contemplating expanding the role of the Corps at Pantex and will make decisions about expanding the role based on current performance. Additionally, NNSA is using the Corps in support functions for other NNSA projects as well, such as providing expert cost estimate review for the Chemistry and Metallurgy Research Building Replacement Project. NNSA will continue to consider utilizing the expertise available from the Corps in various capacities in the future, in conjunction with attaining these services within NNSA and/or from other external sources.

OFFENSE, DEFENSE

Congressman Hobson. Mr. D'Agostino, DOE programs to protect the United States can be divided conceptually into offensive programs (the production of nuclear weapons) and defense programs (non-proliferation programs). Each year we have to juggle this balance while we try to plug the hole in the water budget that the Administration always hands to us.

Please explain to us how you see the state of play between offensive and defensive programs. What changes have taken place in the last several years?

Mr. D'Agostino. NNSA's weapons activities and nonproliferation programs complement each other. For example, in 2002, President Bush and President Putin signed the Moscow Treaty, which will reduce the number of our operationally deployed strategic nuclear warheads to 1,700 to 2,200 by 2012. In 2004, the President issued a directive to cut the entire U.S. nuclear stockpile—both deployed and reserve warheads—in half by 2012. But this goal was later accelerated and achieved 5 years ahead of schedule in 2007. As of the end of 2007, the total stockpile was almost 50 percent below what it was in 2001, when the President took office.

On December 18, 2007, the White House announced the President's decision to reduce the nuclear weapons stockpile by another fifteen percent by 2012. This means the U.S. nuclear stockpile will be less than one-quarter its size at the end of the Cold War—the smallest stockpile in more than 50 years. Reductions in the stockpile combined with an increase in warhead dismantlements are a great example of how Defense Programs is working with Defense Nuclear Nonproliferation in sending exactly the right message around the globe.

Additionally the scientific and technical expertise at the national laboratories required to maintain and advance the nuclear deterrent is the same expertise needed by our nonproliferation programs. Defense Nuclear Nonproliferation leverages and is a beneficiary of the weapons program, indeed Defense Programs provides the technical foundation required for many nonproliferation activities.

Congressman Hobson. What changes do you see coming down the road? What budget implications do these have?

Mr. D'Agostino. NNSA sees three major changes in the future that may have budget impacts. The first is the completion of significant nonproliferation work in Russia by the end of the decade. Once work in Russia is completed, NNSA will need to focus on similar work in other nations. The second challenge NNSA will face is the worldwide growth in nuclear power. This expansion will be a nonproliferation challenge to ensure civilian nuclear programs are not used as a cover for covert weapons programs. The third major challenge NNSA will face is transforming the complex and the stockpile. NNSA's plans for Complex Transformation will lead to a smaller, more efficient, interdependent and responsive complex. Similarly, reliable replacement concepts—coupled with a

responsive infrastructure, may allow for safer, more secure, more reliable and smaller nuclear stockpile.

Hearing Date/Question Number(s): April 2, 2008/Question 65

MARKETING, LOBBYING, AND GOVERNMENT RELATIONS

Chairman Visclosky. Are any of the funds that we appropriate to the labs to support NNSA missions being used by the labs to market their services to other agencies or to lobby Congress for increased funding?

Mr. D'Agostino. Lobbying activities are unallowable by the express provisions of the M & O contracts, and by federal law and regulations, under their Statements of Work (SOW), the laboratories are required to conduct communications, information, public participation and public affairs programs. The SOWs further require that the laboratories engage in liaison and consultation activities with local, state, Native American, federal agencies and Congressional offices to keep these constituents informed of their activities and programs. Clause 952.204-75 of the DEAR, which is included in these contracts, also directs the contractors to conduct proactive public affairs programs in coordination with the Department of Energy.

Therefore, the cost of conducting informational and educational public affairs programs are allowable under FAR 31.205-22 and appropriately charged to the contract. Additionally, under DEAR 970.3102-05-22, the costs of providing technical and factual presentations relating to the performance of the contract to Members of Congress or congressional staff are allowable, if requested by the Member or staff or if directed by the Contracting Officer.

To the extent that any of the laboratories incurred costs related to lobbying or political activities, those costs would be unallowable and must be paid for with non-appropriated corporate resources. For example, Los Alamos National Security (LANS), informs us that as a follow-up to a recent compliance review, it is reviewing the internal policies and procedures in place at Los Alamos National Laboratory to ensure that all lobbying or political activities made unallowable by the contract are properly identified, segregated and paid from non-appropriated corporate resources.

Chairman Visclosky. The new contract teams for Los Alamos and Lawrence Livermore exist only for those particular contracts. The LANS and LLNS contractor teams do not have other DOE work. So how do these contractors fund the cost of their lobbying and government relations offices, if not by using our appropriated funds?

Mr. D'Agostino. As discussed in the answer to above, costs that comport with the respective M & O contracts cost principles are paid out of contract funds using appropriated monies. To the extent they incur unallowable costs related to lobbying or political activities, they are paid out of profits or other corporate resources. Corporate resources and profit earned on a federal contract are not "appropriated funds" for purposes of the Byrd Amendment or the Federal Acquisition Regulations implementing the Byrd Amendment. OMB Governmentwide Guidance for New Restrictions on Lobbying, 55 Fed. Reg. 24540-01 (June 15, 1990); *see also* FAR 52.203-12(b)(2) (noting

that appropriated funds do not include profit or corporate resources received under a contract).

Chairman Visclosky. I understand that Los Alamos has retained a public relations expert to sell the public on expanding plutonium production at Los Alamos.

- Do you consider such PR a legitimate task for Los Alamos?
- Was this public relations campaign launched at the lab's initiative, or was the decision made by the NNSA?
- How is this PR campaign funded - are any Energy and Water appropriations being used to convince the public in northern New Mexico that they should support expanded pit production at Los Alamos?

Mr. D'Agostino. As a matter of practice, many of our contractors retain public relations firms to fill personnel gaps or to help them better communicate with their stakeholders. Each of these is reviewed by the relevant contracting officer for their allowability as a matter of course. For the specific instance referenced in the question, NNSA did not instruct LANS to retain a public relations firm or to engage in a public relations campaign. LANS retained the services of the firm to provide advice to LANL personnel who are tasked with providing accurate and factual information to the public and federal, state and local governments concerning the proposed facility expansion at LANL. The intent was to ensure that LANL personnel were communicating clearly and effectively concerning the site and the proposed facility expansion. No formal allowable cost determination has been made by NNSA because LANS has decided to pay for these services from its non-appropriated corporate resources.

Hearing Date/Question Number: April 2, 2008 / Questions 66-68

PIT PRODUCTION

Mr. Hobson. We understand that DoD has determined that an annual pit production rate of 80 pits per year should be sufficient to meet future needs. Is this correct?

Mr. D'Agostino. Yes. In recent discussions, the Nuclear Weapons Council has indicated that 80 pits per year production rate is sufficient to meet future stockpile support requirements based on current stockpile planning.

Mr. Hobson. This task is far different if we are producing 80 pits per year of the same warhead type, versus 8 different pit types. Do we have any detail on how many different pit types would need to be produced annually?

Mr. D'Agostino. Once the pit manufacturing capability is established at 80 pits per year, the equipment would allow for as many as two different pit types to be manufactured at the same time. Although manufacturing two different pit types could be sustained, it is envisioned that this configuration would primarily be used during the transition from one pit type to the next to reduce down-time and sustain output. During the time period of transition, scheduling between the two different pit types would keep output to maximum. Once the first pit type had concluded and the second pit type was into war reserve production, maximum production output would be focused once again on a single pit type. The manufacturing schedule would take into account the required number of pit types and the time required for replacing those currently in the stockpile. It is not envisioned that all pit types would be required to be replaced at the same time.

Mr. Hobson. This Committee has concerns about the quality of pit production. In other words, it is not enough to claim that Los Alamos can produce X number of pits per year, but these pits must be of sufficient quality that can go into our war reserve. Is the NNSA applying the requirements of DOE Order 413.3 to pit production? If not, please explain why not.

Mr. D'Agostino. The National Nuclear Security Administration (NNSA) is applying the requirements of Department of Energy (DOE) Order 413.3 (which applies to general construction and nuclear operations) to pit production including Quality Assurance. Although not a construction project, the requirements of DOE Order 413.3 are being followed. Quality Assurance requirements for War Reserve "product" are based on adherence to 10 CFR 830 Subpart A as an umbrella and the most rigorous product quality standard, NNSA's Weapons Quality Criteria (QC-1) requirements for nuclear weapons product. All War Reserve products, to include pits, must meet these quality requirements. In addition to the Los Alamos National Laboratory acceptance, these products were also examined from a quality validation perspective by the NNSA's Los Alamos Site Office as part of the contract deliverable acceptance process. As with any war reserve product, no pits are permitted to be War Reserve and be assembled into warheads without adhering to the stringent Quality Assurance requirements called for under both 10 CFR 830 Subpart A and more specifically NNSA QC-1.

Mr. Hobson. Are you requiring the submission of monthly earned value management system reports for Los Alamos pit production? If not, please explain why not.

Mr. D'Agostino. Yes. Pursuant to Division C of the Consolidated Appropriations Act, 2008 (P.L. 110-161), the NNSA provides to the Congress Pit Production Quarterly Reports on pit manufacturing and pit technology activities which utilize data, trends, and analysis from the monthly earned value management system reports.

Mr. Hobson. We should not be paying Los Alamos for the production of substandard pits; we should only pay for the output of war-reserve quality pits. Is the compensation of the Los Alamos contractor tied in any way to this quality output? If not, why not?

Mr. D'Agostino. The number of pits required of Los Alamos National Laboratory (LANL) to be manufactured and quality accepted within any fiscal year is a performance measure defined within the Performance Evaluation Plan for LANL. Compensation through an award fee is based on an assessment of LANL's achievements against all performance measures within the Performance Evaluation Plan.

Hearing Date/Question Number: April 2, 2008 / Questions 70-74

ENHANCED PENSION AND POST-RETIREMENT BENEFITS AND LDRD FOR
WEAPONS LABS

Chairman Visclosky: Employees at the weapons labs already enjoy unusually high salaries, supposedly because these salaries are necessary to attract and retain qualified employees to these laboratories. Now we learn that the same is true for the pensions and post-retirement benefits for retired employees from these labs.

Is this special treatment for the employees of these three labs still justified?

Mr. D'Agostino: We have undertaken major initiatives at all three labs to ensure pay and benefits are competitive with the market and reasonable to the Government. The LLNL and LANL contracts have new second tier benefits programs that are market based. The new market based plans do not include a Defined Benefit Plan. Instead, they include a Defined Contribution Plan and provide access only retiree medical benefits. A decision was recently made with regard to Sandia National Laboratory (SNL) to require the implementation of a second tier market based benefits program for new employees and is expected to be implemented by years end. In addition, LLNL and LANL have contract clauses that include the additional requirement to conduct Benefits Cost Comparison Studies as well as Benefit Value Studies.

What are the recruiting and retention trends for the past five years for the three weapons labs? Please provide detailed supporting data for the record.

Attrition rate					
Lab	2003	2004	2005	2006	2007
LANL	5.3	6.3	9.7	7.8	6.3
LLNL	5.1	5.8	6.8	8.4	10.1
SNL	4.7	4.0	4.3	4.8	6.1

Offer to Acceptance Rate					
Lab	2003	2004	2005	2006	2007
LANL	89%	91%	93%	88.3%	95%
LLNL	92%	83%	84%	89%	87%
SNL	90.4%	90.4%	92.8%	88.6%	87%

Hearing Date/Question Number(s): April 2, 2008/Question 75

ENHANCED PENSION AND POST-RETIREMENT BENEFITS AND LDRD
FOR WEAPONS LABS

Mr. Hobson. The weapons labs also charge the highest rates of any DOE labs for Laboratory Directed Research and Development, again, ostensibly for recruitment and retention. Are these high LDRD rates still justified, and if so, is recruitment and retention still the reason?

Mr. D'Agostino. These rates are still justified to meet National Nuclear Security Administration (NNSA) recruitment and retention goals, but more importantly, they are integral to building vital laboratory capabilities needed to execute Department of Energy and NNSA missions. Since the NNSA laboratories are focused on applied national security and defense missions, a high percentage of their programmatic funding is devoted to the application and deployment of technology with less funding available for basic and applied research. As a consequence, adequate Laboratory Directed Research and Development (LDRD) funding for foundational science and technology is essential for maintaining the long term scientific and technical vitality of the weapons labs core capabilities. The Office of Science laboratories have a significantly higher percentage of direct resources and funding devoted to basic or applied research, and their needs for LDRD are, consequently, significantly lower.

The LDRD program has indeed served as a foundation for the NNSA laboratories to attract and hire many scientists. For example, LDRD has supported nearly one-half to two-thirds of the postdoctoral researchers at the laboratories. The LDRD program also provides opportunities for collaboration with universities and other research organizations, thereby providing a pipeline for new employees. As a retention tool, LDRD provides scientists with funding to perform basic and applied research on the cutting edge of their field, improve their technical skills, and make scientific contributions in their fields.

Mr. Hobson. Does LDRD allow the weapons to develop new technologies that they can then market to other agencies or to other non-NNSA programs? Is that a legitimate use of taxpayer funds?

Mr. D'Agostino. Laboratory Directed Research and Development (LDRD) funds high risk, leading edge research and development with the potential for multiple benefit to a variety of national security missions. The National Nuclear Security Administration (NNSA) seeks to make the scientific and technical capabilities of its national laboratories, including those innovative technologies derived from LDRD, available to all Federal government entities. Scientific and technological breakthroughs at the weapons labs are applied to address national security needs, independent of the boundaries of benefiting Federal agency. For example, improving our basic understanding of tritium in weapons, funded by LDRD, provides knowledge for alternative hydrogen energy use. Advances in nanotechnology sensors have applications in weapons, but also in bio-security, agriculture and remote sensing that can benefit agencies throughout the Federal government. The principles and approaches that provide solutions to NNSA's needs for radiation hardened materials apply to the Department of Energy's needs for nuclear reactors or the National Aeronautics and Space Administration's needs for robust satellite electronics.

Ensuring that the taxpayer's investment in innovative science and technology is available and used to the best advantage across all Federal agencies is a key responsibility of the NNSA laboratories, whether that investment was made through LDRD funding or weapons program funding.

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. As you know, Congress explicitly moved the MOX project out of the NNSA to the Office of Nuclear Energy, and the funding along with it. Apparently, your General Counsel has made an interpretation that the NNSA Act precludes the transfer of project management out of the NNSA, so this project continues to be managed within the NNSA despite explicit direction from Congress to the contrary. This is one of those "Alice in Wonderland" moments I sometimes get in this job. Here we have you, the Administration, telling us, Congress, that we can't do something, because you have decided that we have told ourselves we can't do it...even when we tell us we can. As Alice said, "I can't put it any more clearly, sir, because it isn't clear to me."

Please summarize your rationale for not moving the management of the program out of the NNSA.

Mr. D'Agostino. The Office of the General Counsel has advised me as follows: the Consolidated Appropriations Act, 2008, does not contain language that addresses organizational or management responsibility. It does not make appropriations "to" identified components within the Department, but rather provides funding for the purpose of carrying out certain broadly-described activities as are authorized by the Department of Energy Organization Act or other cited statutes. While the committee report accompanying the Act does address program responsibility, such reports are not law. Only the provisions of the enacted statute apply, and the enacted statute contained no provisions changing the NNSA Act, including its restrictions on the Secretary's internal reorganization authority. Accordingly, the Secretary cannot effectuate the desires expressed in the committee report but not contained in the enacted statute concerning which organization and office should manage the MOX project.

Hearing Date/Question Number(s): April 2, 2008/Question 78a

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. Is it the Department's position that the NNSA Act prevents you from making this transfer? Do you believe the language of the Act constrains what Congress can transfer from the NNSA, or only constrains what the Secretary and the Administrator can move?

Mr. D'Agostino. The General Counsel has advised the Secretary that the NNSA Act prevents the transfer desired by the committee report. The Department fully understands that Congress can, as it has in the past, enact legislation that transfers functions from NNSA to other parts of the Department. For example, section 3117 of the John Warner National Defense Act for Fiscal Year 2007 abolished the NNSA counterintelligence office and transferred the functions and personnel of that office to DOE's Office of Counter-intelligence. However, the Committee report is not legislation and therefore it cannot amend the NNSA Act by including language not contained in the statutory text.

Hearing Date/Question Number(s): April 2, 2008/Question 78b

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. Is it correct that you do not dispute the ability of the Congress to move the funding for MOX out of the NNSA, and that the only real issue is the management of the MOX program?

Mr. D'Agostino. I am advised by the Office of the General Counsel that the only question it has considered is the transfer of the MOX project, and that ordinarily under fiscal law, appropriated funds flow with transferred functions when a transfer has actually occurred.

Hearing Date/Question Number(s): April 2, 2008/Question 78c

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. Mr. D'Agostino, are you aware of the legal principle of avoiding absurd consequences? I've got the GAO "Red Book" here...let me read you a couple of lines. "The generally accepted principle here is that the literal language of a statute will not be followed if it would produce a result demonstrably inconsistent with clearly expressed congressional intent."

Now, nowhere could we find, in law, a reference to the "management" of the MOX program. In fact, the only place that we COULD find a reference to it was in the Omnibus report language last year, where Congress stated "Program activities and functions for the Mixed Oxide (MOX) Fuel Fabrication Facility construction project are transferred to the Office of Nuclear Energy[.]" That sounds like clearly expressed Congressional intent to me, and in a law not even a year old!

From where I'm sitting, the legal maneuvers that DOE is undergoing in order to justify its position are looking increasingly absurd: you're denying clear Congressional intent not more than a year old in favor of a cloudy provision in an decade-old Act. In fact, your interpretation of the NNSA Act would forbid anything ever from being closed, even when it's obsolete. For instance, when the EWGPP program in Russia is complete, you will not be able to close that office. Is this really what you mean?

Your draft legal opinion does not address the absurdity that the Department's interpretation is creating. Will your final legal opinion do so, and how long will we have to wait?

Mr. D'Agostino. The Office of the General Counsel has advised that the doctrine of avoiding absurd results is a narrow exception to the rule giving effect to the plain meaning of statutory text, applied when following the plain meaning would lead to an absurd result. Here, the MOX transfer language is not contained in statutory text, but rather only in the accompanying committee report. The literal language of the Consolidated Appropriations Act, 2008, merely funds the MOX project in an appropriation for "nuclear energy activities." Doing so is not inconsistent with the requirements of the NNSA Act. No absurd result may be found in the NNSA Act's placement of the MOX program in the NNSA or in the NNSA Act's removal of the NNSA from the reach of the Secretary's internal reorganization authority.

Hearing Date/Question Number(s): April 2, 2008/Question 79

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. When I read Section 3212 of the NNSA Act, I do not find any mention of a constraint on the transfer of "management" of a program. The Act language only references the "transfer of functions vested by law in any organizational unit or component."

Is it your position that the NNSA Act does limit your ability to move the management of MOX from the NNSA to NE?

Mr. D'Agostino. Yes, that is the Department's position.

Hearing Date/Question Number(s): April 2, 2008/Question 80

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. Do you arrive at that conclusion from reading between the lines of the statutory text, or do you have supporting information from the authorizing committees that reveals the Congressional intent behind this provision?

Mr. D'Agostino I am informed that the Office of the General Counsel reached that conclusion through a thorough analysis of the text of the Consolidated Appropriations Act, 2008, the relevant text of the NNSA Act and other statutes, and application of the principles of statutory interpretation and Supreme Court decisions.

Hearing Date/Question Number(s): April 2, 2008/Question 80b

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. What guidance have the Armed Services Committees provided to the NNSA regarding this transfer of MOX?

Mr. D'Agostino. The Office of the General Counsel informs me that it has received no "guidance" or any other communication from the Armed Services Committees regarding the Department's legal analysis of the MOX transfer question. NNSA has received no programmatic or operational "guidance" from those committees on this subject other than that contained in S. 3001, Senate Committee Report 110-335, H.R. 5658, and House Committee Report 110-652.

Hearing Date/Question Number(s): April 2, 2008/Question 80c

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. It seems like neither the NNSA Act nor the FY2008 omnibus specifically addresses the management of the MOX program in statutory language. So you have an apparent conflict between these two provisions. In general, conflicts between statutory provisions are resolved in favor of the later-passed law. In the case of MOX, the FY2008 omnibus is later-passed than the NNSA Act. Why have you not followed that general principle of statutory interpretation when resolving this apparent conflict?

Mr. D'Agostino. The Office of the General Counsel has advised me that because there is no conflict between statutory provisions here – the only conflict is between various explicit provisions of the NNSA Act and a committee report, which is not a statute. Accordingly, this principle of statutory construction is inapplicable.

Hearing Date/Question Number(s): April 2, 2008/Question 81

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. During our conference for the FY2008 omnibus appropriations bill, we explicitly discussed the alternative of keeping the MOX program within the non-proliferation budget, but at a much lower funding level. Given that choice — adequate funding for MOX within the NE budget, or drastically reduced funding but still within the NN budget — which would you recommend to the Secretary?

Mr. D'Agostino. As the Consolidated Appropriations Act, 2008, did in fact drastically reduce funding for the MOX project, we are not clear on the choice offered under this hypothetical. The Secretary believes the MOX project is vitally important and that it should be fully funded. If the Congress chooses to assign responsibility for this program to a non-NNSA office by enacting specific legislation making such an assignment, the Secretary would of course carry it out.

Hearing Date/Question Number(s): April 2, 2008/Question 82

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. Even under the most optimistic of schedules for the MOX project, DOE will not have it operational in time to avoid the fines triggered by the provision included in a defense authorization act several years ago. This provision will expose the federal government to millions of dollars of fines to the State of South Carolina. Why has the Department not proposed legislation to remove this fine provision?

Mr. D'Agostino. The Department remains willing to work with Congress to revise section 4306A of the Atomic Energy Defense Act.

Hearing Date/Question Number(s): April 2, 2008/Question 83

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. Administrator D'Agostino, is it your position that the funding and overall responsibility for the MOX project has been transferred to the Office of Nuclear Energy, and the only remaining question deals with the transfer of the existing management staff that presently work on the project? Does that mean that Assistant Secretary Spurgeon is now the lead DOE official responsible for the MOX project, as we intended?

Mr. D'Agostino. As I stated in my testimony, the Office of the General Counsel has concluded that the Consolidated Appropriations Act, 2008, did not effectuate a transfer of responsibility for the MOX construction project. I have a responsibility, in managing the MOX construction project in accordance with the Memorandum of Agreement between the Office of Nuclear Energy and the Office of Defense Nuclear Nonproliferation, to ensure that the project is well managed and the funds are well spent. Assistant Secretary Spurgeon also has a fiduciary responsibility to see that the funds are spent well.

Hearing Date/Question Number(s): April 2, 2008/Question 84

MOVEMENT OF MOX PROGRAM FROM NNSA TO NE

Chairman Visclosky. I understand that you, as the NNSA Administrator, wrote a letter last week to the Chairman of the Defense Nuclear Facilities Safety Board asking the DNFSB to conduct a review of the "Red Oil" problem with the MOX plant and determine whether the "appropriate safety features and controls have been incorporated to prevent or mitigate Red Oil explosions." It is good that somebody at DOE has finally woken up to this problem, but I find it very curious that you signed this request to the DNFSB. In fact, your letter states that "the NNSA is constructing the Mixed Oxide Fuel Fabrication Facility at the Savannah River Site." So the question again is, who is responsible for the MOX plant – you or Assistant Secretary Spurgeon?

Mr. D'Agostino. I am. I have a responsibility, in managing the MOX construction project in accordance with the Memorandum of Agreement between the Office of Nuclear Energy and the Office of Defense Nuclear Nonproliferation, to ensure that the project is well managed and the funds are well spent. Assistant Secretary Spurgeon also has a fiduciary responsibility to see that the funds are spent well.

Hearing Date/Question Number(s): April 2, 2008/Question 85

CLASSIFIED ANNEX TO COMPLEX TRANSFORMATION PEIS

Mr. Hobson. Mr. D'Agostino, your draft Complex Transformation PEIS is built upon many different pieces of analysis. You'll be asking this Committee to approve significant amounts of funding based upon the final, approved plan, so I'd expect that you'd want us to see all the information that you used to make your decision. Page S-64 of the SPEIS states, "A draft classified appendix to this SPEIS has been prepared that evaluates the potential impacts of malevolent, terrorist, or intentional, destructive acts". Now, to me this seems to be an important piece of information. Why has your agency refused to provide it?

Mr. D'Agostino. The National Nuclear Security Administration (NNSA) prepared a classified appendix to the draft Supplemental Programmatic Environmental Impact Statement (SPEIS) that evaluates the potential environmental impacts of malevolent, terrorist, or intentional destructive acts at the NNSA sites included in the SPEIS. This evaluation is based on scenarios from existing vulnerability assessments. Because of the sensitive nature of the information in the appendix, it must be carefully protected. It will be provided to the committee under appropriate safeguards.

Hearing Date/Question Number: April 2, 2008 / Question 86

NAVAL REACTORS – NEED SECURE STORAGE

Ranking Member Hobson: Admiral Donald, back in 2005 a senior DOE official testified before this subcommittee regarding two buildings on the DOE INL campus – buildings 651 and 691. According to this official, “These facilities may offer exceptional opportunity to consolidate materials and components in a location with robust security features in place.” These buildings are not far from the Naval Reactors site.

Given the sensitive nature of the materials you work with, do you have any need for additional secure material storage or consolidation at Idaho?

Admiral Donald: No. Buildings 651 and 691 at INTEC could be used to store unirradiated special nuclear material. We do not have a need to store unirradiated special nuclear material on INL; therefore we do not have any need for additional secure material storage or consolidation at Idaho.

Hearing Date/Question Number(s): April 2, 2008/Question 87

LLNL'S NUCLEAR DETERRENT MISSION

Mr. Calvert. I understand that budgetary pressures are forcing significant workforce reductions at Lawrence Livermore National Laboratory. The Lab has played a critical role in creating and maintaining the modern U.S. nuclear deterrent. It is essential to maintain peer review capability in this vital and unique research and development arena.

What is the impact of these workforce reductions on NNSA's responsibility to ensure robust peer review capability in nuclear weapons research? What is the impact of these reductions on LLNL's ability to sustain its nuclear weapons expertise and its science and technology base? What is NNSA doing to stabilize the situation at LLNL and maintain this vital national capability? Are additional workforce reductions planned?

Mr. D'Agostino. Good stewardship of taxpayer funds requires that we apply an appropriately lean mix of resources to all of our programs. We should note that, overall, funding for our weapons laboratories has not declined in recent years. Rather, the program mix has changed to reflect changing needs. Earlier this year, Lawrence Livermore National Security, LLC (LLNS) completed a voluntary retirement incentive exercise that resulted in 215 retirements. A similar exercise at Los Alamos National Laboratory resulted in 429 retirements. More recently, the National Nuclear Security Administration (NNSA) and Department of Energy approved LLNS's involuntary separation plan that will allow the contractor to reduce its workforce by up to an additional 535 employees. Each contractor is responsible for managing its workforce reductions to minimize the loss of key personnel and capabilities. LLNS has not asked NNSA to approve any other reductions at this time.

NNSA is not aware of any significant impact to date on the ability of Lawrence Livermore National Laboratory or any other site to complete current programmatic work or maintain the essential science and technology base. NNSA is always aware that we must manage our budget and programs in order to maintain the science and technology base at our sites and this planning is reflected in our budget and programmatic priorities.

Hearing Date/Question Number: April 2, 2008 / Question Calvert 1

THE NATIONAL IGNITION FACILITY AND THE NATIONAL IGNITION CAMPAIGN

Mr. Calvert. As you know, this Subcommittee has been very supportive of NNSA's effort to build the National Ignition Facility, an essential capability to maintain the US nuclear deterrent without nuclear testing. I have long been a proponent of this project, and I receive periodic updates on its progress. I understand that construction is coming to completion and attention is transitioning from construction to operations with the expectation that credible ignition experiments will commence in 2010. What is the status and plans for the National Ignition Campaign--when will ignition experiments start and how robust is the schedule for experiments to achieve ignition and realize the value of the investment the nation has made to develop this capability? Please identify the remaining challenges in supporting a robust ignition campaign. What is the schedule for stockpile stewardship experiments once NIF is fully operational?

Mr. D'Agostino. Demonstration of thermonuclear ignition in a laboratory environment will be one of the most important scientific and technological achievements in a generation. It is a very challenging goal whose endpoint cannot be precisely determined, but the JASONs estimated it should take two to three years after the National Ignition Facility (NIF) starts experiments at expected ignition conditions. We are currently on track to achieve and measure the physical conditions required for ignition as we now understand them by the end of Fiscal Year (FY) 2010, but there are likely to be unpredictable technical surprises that will become evident with these first experiments.

In FY 2010 an experiment at expected ignition conditions will be the first in a 1½ year sequence of experiments within the National Ignition Campaign (NIC). During this sequence, we believe that there is a reasonable probability of achieving ignition and a strong probability that we will understand what is required.

Some weapons physics experiments are planned for NIF even before the total completion of the laser. For example, sequences of experiments that are relevant to a very important weapons issue are currently planned for FY 2009. Some important applications of ignition are anticipated soon after the completion of NIC. The scheduling of this agenda of weapons work is part of the FY 2010 planning process.

Hearing Date/Question Number: April 2, 2008 / Question Calvert 2

THURSDAY, APRIL 3, 2008.

**DEPARTMENT OF ENERGY: NUCLEAR
NONPROLIFERATION**

WITNESS

**WILLIAM TOBEY, DEPUTY ADMINISTRATOR, DEFENSE NUCLEAR NON-
PROLIFERATION**

CHAIRMAN VISCLOSKY'S OPENING STATEMENT

Mr. VISCLOSKY [presiding]. The subcommittee will come to order.

The Subcommittee on Energy and Water Development meets today to hear testimony from Mr. William H. Tobey, deputy administrator for defense nuclear nonproliferation, on the nuclear nonproliferation activities at the Department of Energy.

Nuclear nonproliferation is a priority of this subcommittee. Mr. Tobey, we attach great importance to the work that your office does.

The President has said that the biggest threat facing this country is weapons of mass destruction in the hands of a terrorist network. This subcommittee agrees. This is reflected in the actions taken in the FY 2008 omnibus bill at our insistence.

We transferred MOX to NE, but we should have confidence in the security of our own plutonium. Additionally, speaking for myself, I was fearful that if MOX was not transferred, it would have consumed most of the nuclear nonproliferation budget.

We transferred Pit Disassembly to Directed Stockpile Work, since it is a defense function and should not, in any way, distract from your work from either a management or fiscal perspective.

We increased funding for nuclear nonproliferation by \$330 million.

Regrettably, despite his observation, the President's request falls short, while evidencing a certain symmetry: Weapons activities go up 5 percent; nuclear nonproliferation goes down by 7 percent.

Mr. Tobey, I believe there are many nonproliferation programs at the department achieving important national security goals. Based on the decisions reflected in this budget request, it is obvious we need to have a serious discussion about departmental priorities.

Your full written testimony will be entered into the record.

After the hearing, we may have some questions for your to answer for the record. And I ask that you have the responses and any supporting information requested by the subcommittee cleared by your office, the Department of Office of Management and Budget, and delivered in final form to the subcommittee no later than four weeks from today.

I also ask that members who have additional questions and would like to submit them for the record, please do so by 5:00 p.m. this afternoon.

And now I would recognize my good friend, Mr. Hobson, for any opening statement he may have.

Mr. HOBSON. Thank you, Mr. Chairman.

Good morning, Mr. Tobey.

Mr. TOBEY. Good morning.

MR. HOBSON'S OPENING STATEMENT

Mr. HOBSON. You may have heard that I will be retiring from Congress at the end of this year. And one of the things I will miss talking about is DOE's nonproliferation program.

In concept, it is a critical piece of keeping the homeland safe and the world stable and, frankly, is one of the more important programs in the entire Department of Energy. What I really enjoy talking about, besides MOX, which I will come back to, is trying to make sure the program is really working.

Nonproliferation has received a lot of funding in recent years, including significant increases over the president's requests. And we need to understand what the American taxpayers are getting in return for that investment.

Your program has had some marked successes, but it is hard to discuss those because so many of the details are classified. That is a problem, frankly, because it is difficult for you to build and increase support for your strategy and work.

I would like to recommend you put some thought into how you can make more of your successes public. I am not picking on your program here. I have made the same recommendation for our nuclear weapons stockpile and continue to hold out hope.

No one will argue with the importance of your work. I can, however, argue with whether you are spending your funding on the highest-return items. I am afraid no one really knows, including probably you, until we have a comprehensive accounting of where dangerous material exists and what it would take to secure it.

You are in an awkward position. You know the threat is out there in principle, but you can't possibly know if there is something else you should be doing to keep us safe.

I think that position is what led to the latest fiasco with the initiatives for proliferation prevention program. The program started out to address a very specific need, and then it looks like it went on auto-pilot.

We don't really know yet if any U.S. taxpayer funding went in to support the Iranian nuclear program, so I am not going to go into that now. What we do know is that NNSA has no real exit plan for the program. And that tells me that no one within the program has questioned whether it should be phased out. That is not the kind of critical thinking that I like to see within our programs. We need a much more analytic and objective approach to guide our nonproliferation investments in the future.

Now, I said I would have to chat about MOX just a bit. It is, after all, my least favorite yet most often mentioned DOE topic. And I really thought we had helped MOX last year when we moved it to Nuclear Energy. But the department doesn't seem to recognize a good thing when it is handed to them. That also means that NNSA gets to be grilled on MOX one more year, as Mr. D'Agostino found out yesterday.

Mr. Tobey, I hope you are ready to defend in depth this flagrant disregard of congressional direction.

Mr. VISCLOSKY. Mr. Tobey.

MR. TOBEY'S OPENING STATEMENT

Mr. TOBEY. Chairman Visclosky, Ranking Member Hobson, members of the committee, it is a real pleasure for me to be here this morning, because I take great pride and pleasure in speaking about the programs that we undertake and the people who run them.

I am mindful of the comments that I just heard about the committee's support for our programs, and I appreciate that, as well. The fact that the committee places great priority and attaches great importance to our work is heartening to me. And it is very helpful to have bipartisan support for the programs that we undertake.

Before I go into the details of our budget request, I just wanted to emphasize once again how proud I am of the men and women who undertake our programs. They brave conditions which include temperatures ranging from 40 degrees below zero. In construction projects, they have been present or at scenes where there has been small arms or rocket fire. They have faced hostile conditions in some of the most isolated regimes in the world. And yet, every day, they do their job to detect, secure and dispose of dangerous nuclear material. And of them I am enormously proud.

Like Representative Hobson, I, too, will be drawing my time with this program to a close. And I am sorry about that, but I am proud to have been associated with it.

The fiscal year 2009 budget request for the Office of Defense Nuclear Nonproliferation totals \$1.247 billion. This amount will allow us to continue our mission to detect, secure and dispose of dangerous nuclear and radiological materials; strengthen international nonproliferation partnerships; and meet evolving proliferation and international security threats.

Specifically, this funding will advance Defense Nuclear Nonproliferation priorities to: One, enhance national capabilities to detect and interdict nuclear and radiological materials at key seaports and border crossings; two, reduce and eliminate stores of highly enriched uranium and vulnerable radiological materials across the globe; and, three, work to ensure the sustainability of nuclear security upgrades in Russia and the international nonproliferation system.

Many of our efforts focus on nuclear materials and facility security. We recognize that the best way to reduce the threat that a proliferator or a terrorist could acquire nuclear weapons is by denying them access to the necessary nuclear and radiological materials in the first place.

To that end, our fiscal year 2009 request will allow us to accelerate our work, including installation of radiation-detection systems at nine additional ports under our Megaports program, for a total of 32 Megaport sites worldwide; helping to secure 49 border crossings and other high-risk points of entry under our Second Line of Defense program; and expanding export control and commodity identification training activities with more than 50 countries.

Additionally, in 2009, we will undertake a new initiative to strengthen international safeguards to prevent the diversion of nuclear material to nonpeaceful uses. This Next-Generation Safeguards Initiative will develop the safeguards and technologies and human resources needed to sustain our nonproliferation efforts while promoting international partnerships and meeting the challenges of growing nuclear energy demand.

Underpinning all these efforts is our nonproliferation research and development work, through which we will continue our leadership as the principal federal sponsor of long-term proliferation-related R&D on nuclear detection and characterization.

Our fiscal year 2009 request will allow us to accelerate our efforts under the Global Threat Reduction Initiative to convert HEU-fueled research reactors around the globe to use the less proliferation-sensitive low-enriched uranium.

We will also continue to repatriate U.S.- and Russian-origin highly enriched uranium to secure sites, secure high-priority nuclear and radiological sites globally, and secure and remove orphaned radiological sources that could be used in dirty bombs.

To date, we have removed enough nuclear material for nearly 70 nuclear weapons and secured more than enough radiological sources for 8,030 bombs.

In fiscal year 2009, we will convert an additional eight HEU reactors to LEU, remove an additional 700 kilograms of HEU, and secure an additional 125 radiological sites across the globe.

Last year I updated you on our progress under the 2005 Bratislava joint statement on nuclear security, in which we have partnered with Russia to secure its nuclear weapons and sites of highest concern. I am pleased to report that we have completed 85 percent of these key upgrades to date, that work is under way at the remaining sites, and we are on target to complete our work by the end of this year.

In fiscal year 2009, should Congress grant our request for resources, our focus will be on completing additional high-priority security work beyond the Bratislava agreement and working with Russia to put in place the systems and procedures required for long-term Russian sustainability of U.S.-provided security upgrades.

Additionally, our fiscal year 2009 budget request also includes funding to ensure the shutdown of the last remaining plutonium production reactor in 2010. We will prevent the production of about a half a ton of weapons-grade plutonium annually. We will continue our effort to dispose of excess U.S. highly enriched uranium, and facilitate Russia's commitment to dispose of 34 tons of Russian weapons-origin material.

These material security efforts enhance our work to strengthen the nonproliferation regime and the multilateral partnerships supporting it. In this regard, we will continue to support the work plan of the Global Initiative to Combat Nuclear Terrorism and to advance the objectives of the United Nations Security Council Resolution 1540, which mandates effective export controls, criminalizes proliferation of weapons of mass destruction by nonstate actors, and requires states to secure proliferation-sensitive materials.

We will likewise continue our technical and diplomatic support of U.S. efforts on the Non-Proliferation Treaty, within the Nuclear Suppliers Group, and on multilateral initiatives such as the international fuel assurances and disablement of North Korea's nuclear facilities through the use of State Department funds.

We recognize that, just as today's proliferation and terrorism threats are global in scope, so, too, must be the responses we undertake to address them. As I stressed earlier, these are dynamic programs designed to address today's evolving proliferation and nuclear terrorism threats. We have made a lot of progress in tackling a threat that many people thought we could not effectively address. We will continue to undertake our global mission as smartly and as efficiently as possible.

To that end, in fiscal year 2009, we will continue our efforts to accelerate our programs where we can and create synergies among our efforts, emphasizing cost-sharing and sustainability with our international partners, and strengthen our commitment to program and project management.

And before I close, it may be helpful for me to take a moment to address some of the comments that were made in the opening statements, which, effectively, I think were essentially questions about the program, and perhaps also to take the opportunity to highlight some of our successes, because I am mindful of what Representative Hobson had said about the fact that some of our successes are perhaps a bit underappreciated.

And I would like to take advantage of this forum to let people know that we have, in fact, converted 51 reactors in 29 countries from the use of highly enriched uranium to low-enriched uranium and shut down an additional four such reactors. This has enabled us to return over 1,700 kilograms of highly enriched uranium, either to Russia or to the United States or perhaps even to third countries, for secure storage of this material.

As I mentioned earlier, we have secured 85 percent of the nuclear weapons in material storage sites of concern under the Bratislava Initiative in Russian, and that work is under way at the balance of those sites and is due to be completed by the end of this year.

We have trained literally thousands of border inspectors or customs officials, export license officials, in both the United States and overseas, to detect and to deter and to prevent the trafficking of illicit material that is of proliferation concern.

We have overseen the downblending of over 320 metric tons of highly enriched uranium from Russia. This has provided almost half of the fuel for U.S. energy reactors, for U.S. power reactors. Thus, on average, one in 10 lightbulbs in America is run by material that was once in weapons that were aimed at us or our allies.

I think these are all enormous successes. And I am proud to be associated with them, even though I think that the credit really belongs to the people who are directly running the programs.

I would also be happy to discuss in greater detail the measures that we have taken in response to both our own perceptions of the evolving nature of Russia, our own review of the GIPP program, the GAO report of that program, and concerns that have been expressed in Congress.

I have discussed it with the staff, and I would be happy to talk about both the interim steps that we have taken and longer steps that we are contemplating, that, frankly, we would like to discuss with members of Congress and make sure that we can build a consensus around them so that people can be comfortable with where the program is headed.

And then, finally, with respect to the MOX program, I know that it was discussed yesterday with my boss. And I would be happy to discuss it, although, frankly, I don't have much to add to what he said or to what he cited our lawyers as saying.

Thank you for your attention. I would be happy to answer any further questions.

[The written statement of Mr. William Tobey follows:]

**Statement of
William H. Tobey, Deputy Administrator for Defense Nuclear Nonproliferation
National Nuclear Security Administration
U.S. Department of Energy
Before the
House Committee on Appropriations
Subcommittee on Energy & Water Development & Related Agencies**

April 3, 2008

Thank you for the opportunity to discuss the President's FY 2009 Budget Request for the National Nuclear Security Administration (NNSA). I want to thank all of the Members for their strong support for our vital national security missions.

In the eighth year of this Administration, with the support of Congress, NNSA has achieved a level of stability that is required for accomplishing our long-term missions. Our fundamental national security responsibilities for the United States include:

- assuring the safety, security and reliability of the U.S. nuclear weapons stockpile while at the same time considering options for transforming the stockpile and the complex infrastructure that supports it;
- reducing the threat posed by proliferation of nuclear weapons, material and expertise; and
- providing reliable and safe nuclear reactor propulsion systems for the U.S. Navy.

NNSA is examining how to proceed into the future to address evolving national security needs in a manner that anticipates significant changes in how we manage our national security programs, our assets and our people. To that end, the FY 2009 Budget Request for \$9.1 billion, a decrease of \$35 million from the FY 2008 Consolidated Appropriations Act, supports NNSA's crucial national security mission. My testimony today will focus on NNSA's Defense Nuclear Nonproliferation budget request for fiscal year 2009.

Defense Nuclear Nonproliferation

The possibility that rogue states or terrorists might acquire nuclear and other weapons of mass destruction (WMD) and their related technologies, equipment and expertise, poses one of the most serious threats to the United States and international security. The continued pursuit of nuclear weapons by terrorists and states of concern underscores the urgency of NNSA's efforts to secure vulnerable nuclear weapons and weapons-usable nuclear material, to detect and interdict nuclear and radiological materials and WMD-related equipment, to halt the production of fissile material for weapons, to dispose of surplus weapons-usable material, and to contain the proliferation of WMD technical expertise. The FY 2009 Budget Request will enable NNSA to continue these critical activities that support threat reduction initiatives vital to U.S. national security.

Preventing access to nuclear weapons and fissile material has many dimensions. Our highest priority is to keep these dangerous materials out of the hands of the world's most dangerous actors. Absent access

to a sufficient quantity of essential fissile materials, there can be no nuclear weapon. The most direct way to prevent acquisition of nuclear weapons is by denying access to fissile material. Historically, much of our materials security emphasis focused on Russia because that is where most of the poorly secured material was located. We have made remarkable progress cooperating with Russia to strengthen protection, control, and accounting of its nuclear weapons and materials. We recently completed security upgrades at 25 Russian Strategic Rocket Force sites and will meet our commitment to conclude agreed-to security upgrade activities at Russian nuclear sites by the end of this year, as provided for under the Bratislava Joint Statement signed by Presidents Bush and Putin. Although these direct upgrade efforts are largely drawing to a close after over a decade of work, we will continue security upgrade work at some sites added to our work scope after the Bratislava summit, and will continue to work cooperatively with Russia to ensure the long-term sustainability of the systems and procedures already implemented. We recently reached agreement with Russia on a sustainability plan that identifies the requirements for long-term Russian maintenance and infrastructure of security upgrades under our cooperative program.

However, not all nuclear material of proliferation concern is located in Russia. We are also working with other partners to secure weapons-usable nuclear materials in other parts of the world, and to strengthen security at civil nuclear and radiological facilities. One area of particular concern is research reactors, which often use highly enriched uranium (HEU) fuel otherwise suitable for bombs. Our Global Threat Reduction Initiative (GTRI) converts research reactors around the world from HEU to low enriched uranium (LEU) fuel. The GTRI program, and its antecedents, have removed approximately 68 nuclear bombs' worth of highly enriched uranium and secured more than 600 radiological sites around the world, collectively containing over 9 million curies, enough radiation for approximately 8,500 dirty bombs. In the United States the GTRI program has removed over 16,000 at-risk radiological sources, totaling more than 175,000 curies—enough for more than 370 dirty bombs.

An additional nuclear security challenge concerns the effectiveness and credibility of international nuclear safeguards. Against the backdrop of growing nuclear energy demand, concerns over the diffusion of sensitive nuclear technologies, and the challenges posed by Iran and North Korea, international safeguards are coming under increasing strain. To address this challenge, NNSA has launched the Next Generation Safeguards Initiative (NGSI), which will ensure U.S. leadership and investment in our technologies and experts in the service of nuclear nonproliferation. Enhanced and revitalized international safeguards will also help ensure the sustainability of the gains made by our associated threat reduction efforts.

Additionally, in FY2009, we will continue to lead the U.S. Government efforts to oversee the disablement and dismantlement of North Korea's nuclear program. However, in order to continue our support for these critical disablement and dismantlement activities, we will require a waiver of the Glenn Amendment restrictions that were triggered by North Korea's 2006 nuclear test, as well as more substantial funding. The Glenn Amendment prohibits the Department of Energy, which would otherwise fund denuclearization activities, from providing any financial assistance to North Korea. Without this waiver, the Department will be unable to complete Phase Three denuclearization activities. NNSA and the Administration have been working to insert language into the FY 2008 Iraq War Supplemental, or any other appropriate legislative vehicle, to provide such a waiver.

We are also taking aggressive steps to interdict illicit transfers of weapons-usable nuclear materials and equipment, and to prevent dissemination of related sensitive nuclear technology via strengthened export

controls and cooperation. We currently provide export control and commodity identification training to over 50 countries across the globe, in order to improve nations' capabilities to deter and interdict illicit WMD-related technology transfers. As an important complement to physical security improvements, the Second Line of Defense Program enhances our foreign partners' ability to interdict illicit trafficking in nuclear materials through the deployment of radiation detection systems at high-risk land-border crossings, airports and seaports. These efforts increase the likelihood of interdicting illicit nuclear materials entering or leaving the country. To date, 117 Russian border crossings have been equipped with radiation detection equipment under this program.

As part of the Second Line of Defense, the Megaports Initiative, established in 2003, responds to concerns that terrorists could use the global maritime shipping network to smuggle fissile materials or warheads. By installing radiation detection systems at major seaports throughout the world, this initiative strengthens the detection and interdiction capabilities of our partner countries. At the end of 2007, the Megaports program was operational in 12 countries and being implemented at 17 additional ports. In addition, we continue to carry out nonproliferation research and development activities, developing, demonstrating and delivering novel nuclear material and nuclear detonation detection technologies for nonproliferation and homeland security applications.

Since the end of the Cold War, the nation's adversaries have been quick to adapt to technological improvements. Staying ahead of the R&D curve is critically important to keeping our nation safe and secure. As the principal federal sponsor of long-term nuclear nonproliferation-related research and development, NNSA focuses its R&D investments on leading-edge, early stage basic and applied R&D programs, including testing and evaluation, which lead to prototype development and improvements in nuclear detection and characterization systems. By concentrating on these key R&D components, NNSA helps strengthen the U.S. response to current and projected WMD threats.

These critical steps are only part of a comprehensive nonproliferation program. In addition to these efforts to secure, detect, and interdict weapons-usable materials, we also work to eliminate weapons-usable material. Indeed, there remains enough fissile material in the world today for tens of thousands of weapons. An integral part of our strategy, therefore, has been to encourage other states to stop producing materials for nuclear weapons, as the United States itself did many years ago. For example, Russia still produces weapons-grade plutonium, not because it needs it for weapons, but because the reactors that produce it also supply heat and electricity to local communities. We are helping to replace these non-commercial style reactors with fossil fuel plants, thereby eliminating their production of plutonium. This year two of the remaining three plutonium-producing reactors in Russia will shut down permanently at Seversk, six months ahead of schedule, and the third at Zheleznogorsk will shut down in December 2010, if not, as we hope, sooner.

As previously indicated, there are a number of effective synergies between NNSA's defense activities and our nuclear nonproliferation objectives. For example, we are disposing of the substantial quantities of surplus weapons grade HEU that has resulted from the thousands of warheads we have dismantled, by downblending it to lower enrichment levels suitable for use in commercial reactors. This past February marked the 15th anniversary of the U.S.-Russia HEU Purchase Agreement—one of the most successful nonproliferation programs ever conceived. Under the HEU Purchase Agreement, over 322 metric tons of uranium from Russia's dismantled nuclear weapons—enough material for more than 12,000 nuclear weapons—has been downblended for use in commercial power reactors in the United States. Nuclear power generates twenty percent of all American electricity, and half of that is generated by fuel derived

from Russian HEU. As a result, one-tenth of U.S. electricity is made possible by material removed from former Soviet nuclear weapons.

Similarly, disposition of surplus U.S. HEU through downblending to low-enriched uranium has been proceeding for nearly a decade and progress is continuing. As of the end of December 2007, approximately 92 metric tons of HEU, equivalent to over 3,500 nuclear weapons, have been downblended and converted to power or research reactor fuel, and an additional 13 metric tons have been delivered to disposition facilities for near-term downblending. This HEU disposition progress has already contributed substantially to nuclear material consolidation efforts in the Department of Energy complex, eliminating the necessity for high security storage at two sites, and greatly reducing it at several others.

In addition to the efforts on HEU, the United States and Russia have each committed to dispose of 34 metric tons of surplus weapon-grade plutonium. In November 2007, we signed a joint statement with Russia that represents a technically and financially credible plan to dispose of 34 metric tons of Russia's surplus plutonium in fast reactors. Under this approach, Russia will pay for the majority of costs and begin disposing of its surplus plutonium in the 2012 timeframe. Last year, the Department of Energy began construction of a Mixed Oxide Fuel Fabrication Facility at the Savannah River Site. The facility originally planned to dispose of 34 metric tons of surplus weapon-grade plutonium by converting it into mixed oxide (MOX) fuel to be irradiated in commercial nuclear reactors, producing electricity and rendering the plutonium undesirable for weapons use. Last September, at the IAEA General Conference in Vienna, Secretary Bodman announced that an additional 9 metric tons of plutonium, enough to make 2000 nuclear weapons, would be removed from such use and eliminated by conversion to mixed oxide fuel. The MOX facility is a critical component of the Department's surplus plutonium consolidation efforts and is essential to the goal of transforming the complex.

Our efforts at home are not enough, in and of themselves. We need cooperation from our international partners as well, and if we are to encourage responsible international actions, the United States must set the example. We have dramatically improved physical security of U.S. nuclear weapons and weapons-usable materials in the years since the September 11th attacks. We have made substantial reductions in our stockpile and made additional plutonium available for conversion into civilian reactor fuel. Additionally our Complex Transformation will further reduce the number of sites and locations where we store special nuclear materials, providing for improved security of these materials.

The risk of nuclear terrorism is not limited to the United States. The success of our efforts to deny access to nuclear weapons and material is very much dependent on whether our foreign partners similarly recognize the threat and help us to combat it. To this end, we undertake efforts to strengthen the nonproliferation regime and expand international nonproliferation efforts. We continue to provide technical and policy support to U.S. efforts within the nonproliferation regime, including support to the Nuclear Nonproliferation Treaty, the Nuclear Suppliers Group, the International Atomic Energy Agency and a wide range of U.S. diplomatic initiatives, including the efforts in North Korea. We also have strengthened international collaboration and dialogue on nonproliferation efforts, including developing an international mechanism through which seven countries have pledged some \$45 million in contributions to our nonproliferation programs.

In July 2006, Presidents Bush and Putin announced the Global Initiative to Combat Nuclear Terrorism to strengthen cooperation worldwide on nuclear materials security and to prevent terrorist acts involving

nuclear or radioactive substances. By the end of 2007, 64 nations had joined this Global Initiative, and a number of subject matter expert conferences and training activities have been conducted. Most recently in December 2007, representatives from 15 nations participated in Global Initiative to Combat Nuclear Terrorism Radiation Emergency Response workshop held in China by the NNSA. Paired with UN Security Council Resolution 1540 and working closely with our overseas partners, we now have both the legal mandate and the practical means necessary for concrete actions to secure nuclear material against the threat of diversion.

FY09 Budget Request Programmatic Detail

The President's FY 2009 Budget Request for NNSA totals \$9.1 billion, a decrease of \$35.0 million or 0.4 percent less than the FY 2008 Consolidated Appropriations level. We are managing our program activities within a disciplined five-year budget and planning envelope, and are successfully balancing the Administration's high priority initiatives to reduce global nuclear danger as well as future planning for the Nation's nuclear weapons complex within an overall modest growth rate.

The NNSA budget justification contains information for five years as required by Sec. 3253 of P.L. 106-065, the National Defense Authorization Act for Fiscal Year 2000. This section, entitled *Future-Years Nuclear Security Program*, requires the Administrator to submit to Congress each year the estimated expenditures necessary to support the programs, projects and activities of the NNSA for a five-year fiscal period, in a level of detail comparable to that contained in the budget.

The FY 2009-2013 Future Years Nuclear Security Program -- FYNSP -- projects \$47.7 billion for NNSA programs through 2013. This is a decrease of about \$2.3 billion over last year's projections. The FY 2009 request is slightly smaller than last year's projection; however, the outyears increase starting in FY 2010.

DEFENSE NUCLEAR NONPROLIFERATION BUDGET SUMMARY

The Defense Nuclear Nonproliferation Program mission is to detect, prevent, and reverse the proliferation of weapons of mass destruction (WMD). Our nonproliferation programs address the threat that hostile nations or terrorist groups may acquire weapons-usable material, equipment or technology, or WMD capabilities. The Administration's FY 2009 request totals \$1.247 billion for this program, reflecting a return to measured growth from the FY 2007 appropriation level, but a decrease from the final FY 2008 appropriation, which included a large Congressional plus-up over the President's request. The decrease also reflects Congressional action to transfer funding for some construction projects to other budget accounts, and the anticipated decrease of other major construction activities under the Elimination of Weapons Grade Plutonium Production Program in 2008, following completion of major elements of that program's work scope.

Global Threat Reduction Initiative

The FY 2009 Request of \$220 million for the Global Threat Reduction Initiative (GTRI) is an increase of \$27 million over the FY 2008 operating plan. This funding will support GTRI's mission to reduce and protect vulnerable nuclear and radiological materials at civilian sites worldwide by converting reactors from HEU to LEU, removing excess nuclear/radiological materials, and protecting high priority

nuclear/radiological material from theft and sabotage. Specific increases in the GTRI budget reflect an acceleration of (1) Bratislava efforts to repatriate Russian-origin HEU and convert HEU reactors to LEU; (2) efforts to develop a new ultra-high density LEU fuel needed to convert 28 high performance reactors around the world; (3) the removal of nuclear materials not covered under other existing programs; and (4) security upgrades on high priority HEU and radioactive materials located in the United States.

International Material Protection and Cooperation

NSNSA's International Material Protection and Cooperation FY 2009 Budget Request of \$429.7 million represents a decrease of \$194.8 million from the FY 2008 appropriated level. This large decrease reflects: (1) the anticipated completion of major elements of nuclear security upgrade work performed under the Bratislava Agreement; (2) completion of the majority of nuclear security upgrades in countries outside of Russia; and (3) large Congressional increases for this work over the President's FY 2008 budget request. During the past 15 years, the Material Protection Control and Accounting (MPC&A) program has secured 85 percent of Russian nuclear weapons sites of concern, and work is underway to complete this work by the end of FY 2008. To maintain this progress, MPC&A and Rosatom have developed a new joint plan identifying elements required for Rosatom's long-term sustainability of U.S.-installed security enhancements. In FY 2009, international material protection activities will focus on the continued enhancement of Russia's capability to operate and maintain U.S.-funded security improvements in the long-term. The MPC&A Program is also focused on reducing proliferation risks by converting Russian HEU to LEU and by consolidating weapons-usable nuclear material into fewer, more secure locations. In FY 2009, we will eliminate an additional 1.4 metric tons of Russian HEU for a cumulative total of 12.4 metric tons.

Our Second Line of Defense (SLD) Program installs radiation detection equipment at key transit and border crossings, airports and major seaports to deter, detect and interdict illicit trafficking in nuclear and radioactive materials. The SLD Core Program, which installs radiation detection equipment at borders, airports, and strategic feeder ports, has equipped 117 sites in Russia. The U.S. and Russia have agreed to jointly fund work to equip all of Russia's border crossings with radiation detection equipment by the end of 2011, six years ahead of schedule. The Core Program has also equipped 33 sites outside of Russia with radiation detection systems. The SLD Megaports Initiative has deployed radiation detection and cargo scanning equipment at 12 ports to date in the Netherlands, Greece, Bahamas, Sri Lanka, Singapore, Spain, the Philippines, Belgium, Honduras, Pakistan, the United Kingdom, and Israel. Various stages of implementation are underway at ports in 16 other locations.

During FY 2009, the SLD Core Program is planning to complete an additional 49 sites. The SLD Megaports Initiative plans to complete work at nine key ports in FY 2009 in Israel, Jordan, Spain, Mexico, China, the United Arab Emirates, Saudi Arabia, Oman, and Taiwan. We will continue progress on separate ports in Spain and Mexico, and will initiate new work in FY 2009 at ports in Argentina, Brazil, and Malaysia. The Megaports program is also pursuing outreach activities in northeastern Africa and other key regions of concern. FY 2009 funding will also support the procurement of Advanced Spectroscopic Portals (ASP) and mobile detection systems, including Mobile Radiation Detection & Identification Systems (MRDIS) and Radiation Detection Straddle Carriers (RDSC). The Megaports Initiative also works closely with the U.S. Department of Homeland Security's Bureau of U.S. Customs and Border Protection (CBP) by making technical resources available to complement the Container

Security Initiative (CSI) and the Secure Freight Initiative (SFI) at international ports. Under SFI, all U.S.-bound containers are being scanned at three ports in Pakistan, Honduras, and the United Kingdom, fulfilling the 2006 SAFE Ports Act to couple non-intrusive imaging equipment and radiation detection equipment in order to demonstrate the effectiveness of 100 percent scanning of U.S.-bound containers. SLD Megaports has also partnered with CBP at four, limited capacity SFI locations in Hong Kong, Oman, Korea, and Singapore. The Megaports Initiative is installing radiation detection equipment at all CSI ports and has worked with CBP to pursue, where feasible, joint agreements with host nations to implement both the Megaports and SFI programs.

Nonproliferation and International Security

The Nonproliferation and International Security (NIS) mission is to prevent, mitigate, and reverse WMD proliferation by providing policy and technical support to strengthen international nonproliferation regimes, institutions, and arrangements; promote foreign compliance with nonproliferation norms and commitments; and eliminate or reduce proliferation programs and stockpiles. Major NIS strategic priorities in FY 2009 include supporting the safe and secure expansion of nuclear energy use and disablement, dismantlement, and verification of nuclear programs in North Korea. NIS will also support the Next Generation Safeguards Initiative (NGSI) to strengthen international safeguards, revitalize the U.S. technical and human resource base that supports them, and develop the tools, approaches, and authorities needed by the International Atomic Energy Agency to fulfill its mandate far into the future.

In FY 2009, NIS also will confirm the permanent elimination from the Russian weapons stockpile of 30 metric tons of HEU; control the export of items and technology useful for WMD programs; continue an augmented export control cooperation program involving emerging suppliers and high-traffic transit states; break up proliferation networks and improve multilateral export control guidelines; develop and implement policy in support of global nonproliferation regimes; train 2,500 international and domestic experts in nonproliferation; provide technical expertise to the USG to support various WMD interdiction activities; develop and implement transparency measures to ensure that nuclear materials are secure; transition 300 Russian and FSU WMD experts to long-term private sector jobs; and make the preparations necessary for the USG's \$50 million contribution to the International Atomic Energy Agency for the establishment of the International Nuclear Fuel Bank – an international effort to establish a back-up nuclear fuel supply for peaceful uses.

Elimination of Weapons Grade Plutonium Production

Turning to programs that focus on halting the production of nuclear materials, the Elimination of Weapons Grade Plutonium Production (EWGPP) Program is working towards completing the permanent shutdown of the three remaining weapons-grade plutonium production reactors in Seversk and Zheleznogorsk, Russia. The FY 2009 Budget request of \$141 million reflects a decrease of \$38 million from the FY 2008 level, following the planned completion in December 2008 of the fossil fuel plant at Seversk. The budget profile provides the funding required to replace the heat and electricity these reactors would otherwise supply to local communities with energy generated by fossil fuel, permitting the Russians to permanently shut down these reactors by December 2008 in Seversk and no later than December 2010 in Zheleznogorsk. This construction activity thus leads to the elimination of more than one metric ton of weapons-grade plutonium production per year.

Fissile Materials Disposition

The Fissile Materials Disposition program request for FY 2009 is \$41.8 million. The program retains three principal elements: efforts to dispose of U.S. highly enriched uranium (HEU) declared surplus to defense needs primarily by down-blending it into low enriched uranium; technical analyses and support to negotiations involving the United States, Russia, and the International Atomic Energy Agency (IAEA) on monitoring and inspection procedures under the 2000 U.S.-Russia plutonium disposition agreement; and limited support for the early disposition of Russia's plutonium in that country's BN-600 fast reactor including U.S. technical support for work in Russia for disposition of Russian weapon-grade plutonium in fast reactors generally.

The FY 2008 Consolidated Appropriations Act (P.L. 110-161) appropriated funding for the Mixed Oxide Fuel (MOX) Fabrication Facility Project in South Carolina in the Department of Energy's Office of Nuclear Energy account and funding for the related Pit Disassembly and Conversion Facility/Waste Solidification Building projects in the NNSA Weapons Activities account. These projects remain important components of the nation's nuclear nonproliferation efforts. In total, the funding commitment to the Department of Energy's nonproliferation activities is \$1.853 billion in 2009. The MOX project is a key component of the U.S. strategy for plutonium disposition. It is the centerpiece of a comprehensive approach for disposing of surplus weapons-usable plutonium by fabricating it into mixed-oxide fuel for irradiation in existing nuclear reactors. This meets key national security and nonproliferation objectives by converting the plutonium into forms not readily usable for weapons and supports efforts to consolidate nuclear materials throughout the weapons complex.

In addition to its role in the disposition of excess nuclear materials at home, the U. S. views the MOX project as a key component of U.S. global nuclear nonproliferation efforts in which fissile material disposition is the final step in a balanced nuclear nonproliferation strategy aimed at employing measures necessary to detect, secure, and dispose of dangerous nuclear material. In 2007, the U.S. and Russian governments agreed on a framework for a technically and financially credible Russian plutonium disposition program based on the irradiation of plutonium as MOX fuel in fast reactors. When all required steps have taken for implementation, it will enable the U.S. and Russia to meet their commitments under a 2000 agreement to dispose of a combined total of 68 metric tons of surplus weapon-grade plutonium—enough material for approximately over 8,000 nuclear weapons.

This budget request also seeks funding to dispose of surplus U.S. HEU, including downblending 17.4 metric tons of HEU to establish the Reliable Fuel Supply, which would be available to countries with good nonproliferation credentials that face a disruption in supply that cannot be corrected through normal commercial means. This initiative marks an important first step creating a reliable nuclear fuel mechanism that could provide countries a strong incentive to refrain from acquiring their own enrichment and reprocessing capabilities.

Nonproliferation and Verification Research and Development

The FY 2009 budget requests \$275 million for Nonproliferation and Verification Research and Development. This effort encompasses two primary programs that make unique contributions to national security by conducting research and development into new technical capabilities to detect illicit foreign production, diversion or detonation of nuclear materials. The Proliferation Detection Program

conducts research across a spectrum of technical disciplines that supports the NNSA mission, national and homeland security agencies and the counterterrorism community. Specifically, this program develops the tools, technologies, techniques, and expertise required for the identification, location, and analysis of facilities, materials, and processes of undeclared and proliferant nuclear programs. The Nuclear Detonation Detection Program produces the nation's space-based operational sensors that monitor the entire planet to detect and report surface, atmospheric, or space nuclear detonations. This program also produces and updates regional geophysical datasets that enable and enhance operation of the nation's seismic nuclear detonation detection network.

National Nuclear Security Administration

Appropriation and Program Summary Tables Outyear Appropriation Summary Tables

FY 2009 BUDGET TABLES

National Nuclear Security Administration

Overview

(dollars in thousands)

	FY 2007 Current Appropriations	FY 2008 Original Appropriation	FY 2008 Adjustments	FY 2008 Current Appropriation	FY 2009 Request
National Nuclear Security Administration					
Office of the Administrator	358,291	405,987	-3,850	402,137	404,081
Weapons Activities	6,258,583	6,355,633	-58,167	6,297,466	6,618,079
Defense Nuclear Nonproliferation	1,824,202	1,673,275	-15,279	1,657,996	1,247,048
Naval Reactors	781,800	781,800	-7,114	774,686	828,054
Total, NNSA	9,222,876	9,216,695	-84,410	9,132,285	9,097,262
Rescission of Prior Year Balances	0	-322,000	0	-322,000	0
Total, NNSA (OMB Scoring)	9,222,876	8,894,695	-84,410	8,810,285	9,097,262

Appropriation Summary

Outyear Appropriation Summary

NNSA Future-Years Nuclear Security Program (FYNSP)

(dollars in thousands)

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
NNSA					
Office of the Administrator	404,081	419,848	436,266	451,771	469,173
Weapons Activities	6,618,079	6,985,695	7,197,844	7,286,912	7,460,318
Defense Nuclear Nonproliferation	1,247,048	1,082,680	1,076,578	1,111,337	1,133,982
Naval Reactors	828,054	848,641	869,755	880,418	899,838
Total, NNSA	9,097,262	9,336,864	9,580,443	9,730,438	9,963,311

Defense Nuclear Nonproliferation

Funding Profile by Subprogram

(dollars in thousands)					
	FY 2007 Current Appropriation	FY 2008 Original Appropriation	FY 2008 Adjustments	FY 2008 Current Appropriation	FY 2009 Request
Defense Nuclear Nonproliferation					
Nonproliferation and Verification Research and Development	265,197	390,752	-3,556	387,196	275,091
Nonproliferation and International Security	128,911	151,370	-1,377	149,993	140,467
International Nuclear Materials Protection and Cooperation	597,646	630,217	-5,735	624,482	429,694
Elimination of Weapons-Grade Plutonium Production	231,152	181,593	-1,653	179,940	141,299
Fissile Materials Disposition	470,062	66,843	-608	66,235	41,774
Global Threat Reduction Initiative	131,234	195,000	-1,775	193,225	219,641
International Nuclear Fuel Bank	0	50,000	-455	49,545	0
Congressional Directed Projects	0	7,500	-120	7,380	0
Subtotal, Defense Nuclear Nonproliferation	1,824,202	1,673,275	-15,279	1,657,996	1,247,966
Use of Prior Year Balances	0	0	0	0	-918
Total, Defense Nuclear Nonproliferation	1,824,202	1,673,275	-15,279	1,657,996	1,247,048
Rescission of Prior Year Balances	0	-322,000	0	-322,000	0
Total, Defense Nuclear Nonproliferation (OMB Scoring)	1,824,202	1,351,275	-15,279	1,335,996	1,247,048

NOTES: The FY 2007 Current Appropriation column includes additions for international contributions to the Elimination of Weapons-Grade Plutonium Production Program in the amount of \$5,397,964; to the International Nuclear Materials Protection and Cooperation Program in the amount of \$4,916,044 and to the Global Threat Reduction Initiative Program in the amount of \$1,738,800. FY 2008 Adjustments reflect a rescission of \$15,279,000 as cited in the FY 2008 Consolidated Appropriations Act (P.L. 110-161).

Public Law Authorization:

FY 2008 Consolidated Appropriations Act (P.L. 110-161)

National Nuclear Security Administration Act, (P.L. 106-65), as amended

Outyear Funding Profile by Subprogram

	(dollars in thousands)			
	FY 2010	FY 2011	FY 2012	FY 2013
Defense Nuclear Nonproliferation				
Nonproliferation and Verification Research and Development	318,620	334,182	343,397	351,098
Nonproliferation and International Security	151,052	158,711	171,108	175,368
International Nuclear Materials Protection and Cooperation	400,511	394,626	395,225	404,064
Elimination of Weapons Grade Plutonium Production	24,507	0	0	0
Fissile Materials Disposition	37,691	27,985	28,435	26,000
Global Threat Reduction Initiative	150,299	161,074	173,172	177,452
Total, Defense Nuclear Nonproliferation	1,082,680	1,076,578	1,111,337	1,133,982

Mr. HOBSON. So you didn't bring anything from the lawyers today for us to talk about or to look at—

Mr. TOBEY. I did not.

Mr. HOBSON [continuing]. As we talked about yesterday. In the hearing, we talked about trying to understand your lawyers' position, because we challenged it. And we can't really challenge it until we see it. So that gives me some problems.

If somebody would have gotten the message as a result of the hearing yesterday, and you would have shown up prepared or a lawyer would have shown up with you and been prepared. We need to discuss what is a very, I think, broad and negative reaction from the administration and the secretary to the Congress. This should not exist. A law was signed by the President.

If there is a language problem, we need to know what the language problem is because we are going to change it, or I think, the chairman is going to change it.

So I am a little sorry you didn't show up today with that.

Mr. TOBEY. I understand that the lawyers are working on a written opinion and that they will be able to share it with you as soon as it is done, and that they anticipate that it will be done quickly.

Mr. VISCLOSKY. I would just add to Mr. Hobson's observations, because when he spoke about the issue of MOX yesterday and its continued residence in nuclear nonproliferation, I was silent. And I would hope no one takes that as somehow a change in opinion by myself. But I thought that Mr. Hobson simply had covered the ground very well. And, as I like to describe him, he is the real lawyer on this committee. I don't have enough malpractice insurance, myself, to proceed.

But it is an important issue. And there was a clear intent, from my perspective, as to what the Congress of the United States wanted to do. The initiative resided with this subcommittee, but ultimately the House of Representatives, the Senate of the United States, in a bipartisan fashion, in a law signed by the President of the United States, said, "This is what we want to do." And now we do have counsel downtown quibbling over language.

Now, they may see it differently. We do, too. We do, too. And we will make our very best efforts to make sure that whoever shows up next year doesn't have to talk to a lawyer to read clear, precise English and understand what the intent of the United States Congress, in a bipartisan fashion, was.

And so I just want to make that clear. That is our position; that is not Mr. Hobson's position.

Mr. Tobey, I have just a couple questions, and then I will turn it to Mr. Hobson. And this is on GNEP.

The nuclear nonproliferation budget request states, "On February 6, 2006, Secretary Bodman announced a new, comprehensive strategy to promote the expansion of nuclear power, known as GNEP."

Why does nuclear nonproliferation think it has the mission to promote nuclear power internationally? Is that not the job of the International Atomic Energy Agency?

Mr. TOBEY. Well, obviously, the U.S. government and the International Atomic Energy Agency can share similar missions.

I guess I would note that our primary interest in the issues related to GNEP and the expansion of nuclear power is making sure that it is done in a way that is consistent with our nonproliferation objectives. And we think that GNEP actually can advance our nonproliferation objectives.

And we have been interested in fuel-cycle issues before GNEP was proposed, and our interest would remain regardless of whether or not GNEP were actually pursued as a policy.

Mr. VISCLOSKY. So when we are talking about advanced reprocessing facilities, that assists in your nonproliferation efforts?

Mr. TOBEY. We think that there is a potential for the use of technology to advance nonproliferation goals by, for example, diminishing incentives for other states to have indigenous enrichment and reprocessing, enabling the drawing down of existing stocks of separated plutonium, advancing proliferation-resistant reactor technology, and by advancing safeguards technology.

Mr. VISCLOSKY. Let me ask you this. The committee provided, I believe, \$50 million last year for the International Fuel Bank to do those very things without reprocessing or recycling. What have you done about that?

Mr. TOBEY. We have prepared a letter that would go to the IAEA noting that this money is available, and started discussions with the State Department about what terms and conditions we would be approaching the IAEA with.

But our intent is to—we appreciate the fact that this money was appropriated. We would like to see the fuel bank established. We would like to make sure that it is established in the way that truly does advance our nonproliferation objectives by ensuring that it diminishes incentives for indigenous enrichment and reprocessing.

Mr. VISCLOSKY. And the fuel bank, if I understand, the concept is to provide countries with nuclear power for civilian use without having to have the apparatus and infrastructure to produce the fuel in the first instance.

Mr. TOBEY. Exactly.

Mr. VISCLOSKY. Well, from a nonproliferation standpoint, would that not be a higher order of priority than assisting people as far as encouraging reprocessing or recycling?

Mr. TOBEY. We don't encourage reprocessing or recycling—

GNEP

Mr. VISCLOSKY. Let me ask you the same question in a different fashion, then. Do you have a sense, or can you provide for the record, how much money you have expended in 2008 on the proposed International Fuel Bank and how many dollars your agency has actually spent promoting GNEP, as to which your priorities are? And if you could do that for the record, that would be terrific.

Mr. TOBEY. Okay.

Mr. VISCLOSKY. The next question I have—and Mr. Hobson may have a particular interest in this—is, what is your statutory authority in nuclear nonproliferation to take on the GNEP mission?

My understanding is GNEP is a function of NE. And I do not remember in our bill last year that we had language transferring that authority to nuclear nonproliferation. How did your lawyers work that out? You can take on responsibilities for reprocessing

without any language from us, but you can't get rid of MOX even though we have language.

Mr. TOBEY. We don't have responsibility for reprocessing. And, in fact, we are eager to create international systems in which other countries would be discouraged from enrichment and reprocessing.

Mr. VISCLOSKY. Well, GNEP is funded, the last time I looked, in our budget under Nuclear Energy. So what gives you authority to do GNEP?

Mr. TOBEY. I don't think that we do GNEP. I would say that NE does GNEP.

Mr. VISCLOSKY. The secretary, on February 6th, suggested that you have GNEP activities.

Mr. TOBEY. I mean, we participate in policy deliberations regarding GNEP in order to ensure that our nonproliferation objectives are met. And GNEP can perform significant nonproliferation goals. I mean, as I outlined, there are four ways in which GNEP could advance our nonproliferation objectives. And we do, as a consequence, have a vital interest in making sure that the GNEP program does exactly that.

Mr. VISCLOSKY. If you could, for the record, provide how much money you spent doing policy relative to GNEP?

Mr. TOBEY. Sure.

Mr. VISCLOSKY. Also, if you could include in that any of your travel monies that have been used to support GNEP.

And how much is in your 2009 request to support GNEP activities?

Mr. TOBEY. We really look at it as efforts to support advanced fuel-cycle technologies that would be more proliferation-resistant.

Mr. VISCLOSKY. Yes. But that is GNEP. That is what you said earlier.

Mr. TOBEY. Well, it can involve GNEP, but it can also involve a variety of other activities. I mean, for example, we also talked to the IAEA about advanced safeguard technologies, which would be compatible with an expansion of nuclear power. I mean, I referenced in my opening statement the Next-Generation Safeguards Initiative.

As you know, I am sure, nuclear energy has basically lain dormant within the United States for decades. It is apparently resurging in the United States, and it is resurging abroad as well. If we are going to keep pace, from a nonproliferation standard, we need to make similar investments in advanced safeguards technology.

Mr. VISCLOSKY. If you could, for the record, have your staff go back and ferret out what monies, whether it be policy meetings, but particularly travel—who traveled and where for what—and provide that for the record for 2008 and for 2009.

Mr. TOBEY. Okay.

Mr. VISCLOSKY. One other question, and then I will turn to Mr. Hobson.

INTERNATIONAL NUCLEAR SAFEGUARDS AND ENGAGEMENT PROGRAM

The International Nuclear Safeguards and Engagement Program is requesting \$11 million in 2009 to work with advanced fuel-cycle partners to develop and implement next-generation safeguard tech-

nology for advanced reprocessing facilities and fast reactor fuel cycles.

How is that distinguished from GNEP?

Mr. TOBEY. Well, I would say that the safeguards technology is necessary if we are going to be——

Mr. VISCLOSKY. I am not arguing that, but if you are doing that yourself, how does GNEP play into this?

Mr. TOBEY. I think GNEP is focused on trying to develop technologies that would be useful to produce energy and, admittedly, in a way that is responsible from a proliferation standpoint and a waste disposition standpoint.

Our focus is really on the nonproliferation and safeguards aspects of those activities.

Mr. VISCLOSKY. Which is what you are asking for \$11 million for.

Mr. TOBEY. Right.

Mr. VISCLOSKY. Right. But then there is also GNEP activities.

Mr. TOBEY. There is——

Mr. VISCLOSKY. That is what the secretary is saying.

Mr. TOBEY. Well, I think what the secretary is reflecting—I am not familiar with the exact quotation that you are referring to. But I think the secretary is aware that GNEP does advance our nonproliferation goals and that we participate in GNEP policy deliberations.

Mr. VISCLOSKY. Okay. And I have additional questions on the safeguards and engagement program, but I will defer now and I will have those for the record, and would turn to Mr. Hobson now.

Mr. HOBSON. Let me start with just a comment.

Mr. Lantos and I sponsored a bill here in the House that passed the House on this fuel bank. It has not passed the Senate yet, although we went ahead and provided funding.

I would hope that the administration would support—because they did support the bill—would support the passage of that bill in the Senate, especially since Mr. Lantos has passed away.

Senator Nunn was here. He made a big plea for the bill when he was here. I had already sponsored it before he was here, which kind of surprised him.

So anything the administration could do to get that bill done. It is one thing that could be bipartisan. It is hard to get things out of the Senate right now. That is one thing that I think would advance the cause.

I have two questions I want to ask in this round.

Each year, we provide billions of dollars to support nonproliferation efforts. Obviously, we place a great deal of importance on the success of these activities. As I said earlier, we don't have a clear idea of your current and out-year plans and priorities.

Frankly, I do not understand how we can be confident of your agency's direction when you do not yet have a comprehensive accounting of sensitive material nor, apparently, cross-checks in place to ensure U.S. taxpayer funds are not supporting Russia's institutions working on Iran's nuclear program.

Please update the committee on your efforts with other agencies to develop a comprehensive database of sensitive, unsecured material globally. Why should be confident that you are working to address the greatest threats before this assessment is complete?

Mr. TOBEY. Well, as I am sure you know, the department's intelligence office is responsible for developing this database, and they are doing so.

Our assessment—but even before that assessment is complete, I think it has been possible to make judgments about where the greatest threats emanate from. I think it was clear that, especially in the early to mid-1990s, the threat was mainly from Russia and other states in the former Soviet Union.

A year ago, I talked about how, as our programs are actually brought to completion—and, as I mentioned, we are nearly done with the Bratislava work—we will be shifting our efforts in two regards: We are moving from the first line of defense—the guns, guards and gates that surround nuclear weapons and material facilities within Russia—to second lines of defense, at border crossings and Megaports.

And then we are also beginning to worry about the threats that—well, we are more than beginning. We are worried about, and taking action on, the threats that are emanating elsewhere. Now, in part, that can be addressed through the second line of defense, but we can also expand our work on commodity identification training and export licensing.

And then the other way in which our strategy is shifting to meet new threats is to move from a focus on nuclear material to radiological material, or from the nuclear weapons material to the civil material. And there, as you know, we have expanded our work to convert reactors and return highly enriched uranium and to secure radiological sources.

DEFENSE NUCLEAR NONPROLIFERATION

Mr. HOBSON. The FY 2008 omnibus appropriations bill required Defense Nuclear Nonproliferation to transition the management of two construction projects to other offices. Specifically, the bill required that the management of the Mixed Oxide Fuel Fabrication Facility be transferred to DOE's Office of Nuclear Energy, and the Pit Disassembly and Conversion Facility be transferred to NNSA's Office of Defense Programs.

We understand that Defense Nuclear Nonproliferation has been developing a memorandum of understanding with the Offices of Nuclear Energy and Defense Programs that will allow for continued participation in program management.

What is the status of these agreements?

Mr. TOBEY. Well, the legal status, I think as we discussed earlier, was discussed by Administrator D'Agostino yesterday, and he cited the lawyers' finding. And I don't have much to add about that.

Under that, there has been "economy act transfer," under which the funds for the MOX program were transferred within the department, so that the Office of Fissile Materials Disposition continues to run that program.

The Pit Disassembly and waste building projects have been transferred by the administrator to the Defense Programs Office.

Mr. HOBSON. No legal opinion?

Well, anyway, please describe any continued involvement that Defense Nuclear Nonproliferation may have in management of

these two construction projects, and justify why Defense Nuclear Nonproliferation believes it needs to continue to be involved, as you talked about.

Mr. TOBEY. Well, with respect to the MOX, as I mentioned, the legal opinion indicated that the language contained in the Nuclear Energy account in the Consolidated Appropriations Act in 2008 did not transfer the MOX project. So that, as I mentioned, is still continuing to be managed by the Office of Fissile Materials Disposition within Nuclear Nonproliferation.

With respect to the two other projects, the Pit Disassembly and the waste building, those have been transferred to Defense Programs. And aside from trying to coordinate three interrelated projects, essentially collocated at a similar site, we don't participate in the management of that project.

Mr. HOBSON. To whom does the management team at the Savannah River site report? To you, or to Assistant Secretary Spurgeon?

Mr. TOBEY. Well, ultimately, the management team reports to the deputy secretary of energy as the federal acquisition executive.

Mr. HOBSON. I didn't ask you ultimately. Ultimately, they are supposed to respond to the taxpayer.

To whom does the team report?

Mr. TOBEY. To the Office of Fissile Materials Disposition, which reports to me.

Mr. HOBSON. Okay. To whom does the contractor that is designing and building the MOX plant report, you or Assistant Secretary Spurgeon?

Mr. TOBEY. Well, to the federal project director, who reports through the Office of Fissile Materials Disposition, which reports to me.

MOX BUDGET ESTIMATE

Mr. VISCLOSKY. Do you have an estimate as to how many dollars in your budget are being spent on MOX because of people having to report and manage through nuclear nonproliferation?

Because you have some people at nuclear nonproliferation doing nuclear nonproliferation work. But from Mr. Hobson's line of questioning, the construction of MOX and the management here is still residing at nuclear nonproliferation, and there must be some costs associated in your budget with that management activity.

Mr. TOBEY. I assume their salaries, et cetera, yes.

Mr. VISCLOSKY. Could you provide to the committee an estimate of that?

Mr. TOBEY. Sure.

Mr. VISCLOSKY. Because it would appear, while we have a serious disagreement with the administration on where it should reside, we are told that at least the money was moved. But money is still being expended in nuclear nonproliferation for MOX. And I don't think there has been any dispute, even when the Secretary of Energy was up here, that that is not supposed to happen.

And if there is a legal dispute here, as to where this ought to reside—if nothing else, I was certainly expecting you ought to be reimbursed from NE from that MOX money for any expenses you have incurred so you can spend it on your intended purpose, nuclear nonproliferation. I really like what you do on nuclear non-

proliferation. I want every penny we give you spent on nuclear nonproliferation, not managing MOX.

So I would like an estimate for the record as to how much you are out of your budget for nuclear nonproliferation purposes that ought to be reimbursed through NE, if there is at least no disagreement about where the money ought to reside.

Mr. Berry.

Mr. BERRY. I don't have any questions, Mr. Chairman.

Mr. VISCLOSKY. Mr. Simpson.

Mr. SIMPSON. Thank you, Mr. Chairman.

Welcome to the committee. You will be glad to know that the word "MOX" will not come out of my mouth for the rest of this hearing.

[Laughter.]

That is the only time. That is the only time.

Some of the work you do is actually—in fact, the work you do do in nonproliferation is probably some of the most important work that our government does. And I appreciate the work that you have done.

Let's talk about Megaports for a minute. You said there were 32 Megaports worldwide?

Mr. TOBEY. Yes, sir.

Mr. SIMPSON. How do you determine which are priority ports and which are not priority ports? Is it by the volume of traffic that goes through?

Mr. TOBEY. Volume is one consideration, but the threat in the area, the level of trafficking.

And, frankly, I have also shifted—the initial study was done by one of our National Labs. They took a whole variety of, sort of, threat factors that went into that calculation. I have urged that the program also examine more closely geographic considerations associated with what I think are the most obvious proliferation threats.

So, for example, North Korea, which has a demonstrated record of proliferating certainly missile material and has a demonstrated record of a nuclear program, meant that we needed to place higher priority on ports that North Korean materials went through.

MEGAPORTS

Mr. SIMPSON. Is there a Megaport within the United States?

Mr. TOBEY. No. Megaports work is done entirely abroad. DHS does the work within the United States. We work with DHS on ports abroad, as well.

Mr. SIMPSON. Just out of curiosity, why are we doing Alexandria rather than the port where most of the traffic goes through at the—I can't remember the name. It is in Sinai, where the Red Sea comes out. It is their major port in that area. And we are doing Alexandria for some reason, which is a very minor port, in terms of volume.

Mr. TOBEY. I think I would have to get back to you on that. I don't know.

Mr. SIMPSON. We recently visited Alexandria and Salalah, and you will be happy to know that the equipment, when we went in for them to show us how it worked, didn't work at either port. So that was kind of—the X-ray equipment and so forth. They said it

was because too many of us were standing in the trailer and it threw off their direction of—I don't know; it was kind of weird.

But anyway, now I have lost my train of thought. The theory is here that we are going to screen every container that comes into the United States before it gets to the United States, is that right?

Mr. TOBEY. That is my understanding of the law, yes.

Mr. SIMPSON. That is one of the budgetary impacts of the passage of H.R. 1, the 9/11 Commission recommendations, which requires 100 percent screening of containers from foreign ports. And has NNSA adequately adjusted its FY 2009 budget request, as well as its future budget projections, for the Megaport initiative to address this legislation?

Mr. TOBEY. Well, this is an area where we are giving higher priority. As I mentioned, we were shifting in that direction even before this legislation was passed.

The ultimate responsibility for screening cargo coming into the United States is a DHS responsibility. We work closely with DHS, but my understanding of our mission is to work—the division of labor is that the Department of Homeland Security is responsible for making sure that cargo is screened before coming into the United States.

The Department of Energy's efforts are to address the threat of illicit trafficking of materials, regardless of origin or destination. So we are dealing with cargo that may never come to the United States but could still pose a threat to our interests, because, obviously, if a nuclear weapon or radiological materials became loose in commerce, it would be a threat to us.

Mr. SIMPSON. Sure. From your perspective, do you think we will ever get to a point where we screen every container that comes into the United States?

Mr. TOBEY. It is a personal opinion, but I think it is a very, very difficult mission.

Mr. SIMPSON. I realize this may be a better question for Homeland Security. One of the things that—as an example, in Salalah, it is kind of a transshipment port, where ships come in from all over, they offload things, they put them on different ships, they send them out. There is not a lot of material from Oman and the region that actually comes directly in and is then shipped.

Are we ever going to get to a system where, as an example, when I check into an airport in Idaho Falls, Idaho, they don't then screen me in Salt Lake and then again in Cincinnati before I get to Washington, D.C. Once you are in the system and screened in the system, you don't get rescreened at every port, which is different than the port system we have now.

And with transports, that creates a real problem, when all you are doing is—do we have a system in place where we are able to screen a container as it originally comes into the system, and then essentially it is screened and done?

Mr. TOBEY. This is really a question, I think, that would best be addressed to DHS, with respect to containers coming to the United States. But my understanding is that they are trying to work toward such a system, where cargo is screened at the last port before coming to the United States and then would be certified for entry to the United States.

But I would want to look carefully at that concept of operations, because, unlike the airport system that you cite, where travelers are basically in an area where they don't have access to weapons or other dangerous material, once a ship leaves a port, it can be visited by smaller ships or make stops at ports that don't have such facilities, and you couldn't necessarily be confident that the cargo was clear.

Mr. HOBSON. Would the gentleman yield?

Mr. SIMPSON. Sure.

Mr. HOBSON. That is very interesting. We think the Department of Energy is very arrogant. But let me tell you, the DHS people are even more arrogant. It is extremely difficult to get anybody to respond to anybody about DHS. When you do, they just say, "We do what we want to do." That is their response. So if you guys think you are bad, they are even worse.

Mr. TOBEY. I am heartened.

[Laughter.]

NNSA'S IPP PROGRAMS

Mr. SIMPSON. In December of 2007, in the GAO report 08-189, the GAO raised serious concerns about the management and direction of the NNSA's Initiatives for Proliferation Prevention, the IPP programs, which was begun in 1994, which encouraged former Soviet Union scientists to enter nonmilitary work in the short term and create private-sector jobs for these scientists.

Essentially, we wanted to keep these scientists employed in some fashion, rather than on the market for countries to be able to come in and hire and bring into doing things that we didn't want them to do.

The GAO report was relatively critical of the program, including "excessive carry-over balances, overstated accomplishments, and the lack of an exit strategy for the program."

Given the recent findings of the GAO and the hearings held by the House Energy and Commerce Committee, how does the NNSA propose to revise the budget for the IPP program to address concerns that have been raised? And how much have you requested for this budget for direct and indirect support of former weapons scientists, and how does this compare with previous years?

Mr. TOBEY. Sir, we have given this program a lot of thought, in response both to, as I mentioned, to changing conditions in Russia, the GAO report.

And I would add parenthetically that we agreed with all of the recommendations of the GAO report, except for one, which dealt with a comprehensive review of the program. But a review of the program was completed in the summer of 2006. And as the GAO completed its work, we were in the midst of and had not yet completed all the findings from that review.

So we are keenly aware that the program needs to be changed. And I have been talking to committee staff and members of both the House and the Senate about the changes that we are attempting to undertake.

Our initial views, though, are premised on the belief that controlling technology is part of a balanced nonproliferation program, that we should attempt to control both technology and materials. And

if you are going to control technology, you probably need some sort of scientific engagement program.

That said, I think it should be a relatively modest program. And I would note for context that this program has shrunk over years. The Nuclear Cities Initiative was eliminated entirely. And the overall level of funding is down by about 50 percent, and we think, frankly, it could down further.

We have taken some interim steps, which have involved basically freezing any of the projects that might be controversial so that no criticism could be made that we have made matters worse as we have tried to work through longer-term steps. And we have undertaken a review with our colleagues in the interagency to try and standardize the State Department and DOE programs.

Over the longer term, we have put forward some ideas which, frankly, I am trying to see if they can serve to build a consensus on continuing the program under this basis. And I welcome this conversation as a part of that process. And I have talked to committee staff and, as I say, others about this.

So these are our initial ideas about how to reform the program, but I am open to suggestions. And there are many stakeholders, we understand, on both sides of Capitol Hill and also outside, in terms of others.

And there, the steps that we are contemplating taking are: to continue our Russian and former Soviet Union projects at high-priority institutes but phasing out those at lower-priority institutes; gaining Russian agreement over the next several months on an approach to cost-sharing; continuing programs that might address threats emanating from Iraq or Libya, and be prepared to support new projects in places, for example, like North Korea, if that were to become possible; that we would shift nonproliferation technology projects out of the IPP program, so those that, for example, dealt with advancing safeguards technology would be done through the Safeguards Office, just simply so that there would be clarity of the objectives; and then, as I mentioned, finalize an interdepartmental and interagency agreement on an approach to advanced fuel-cycle projects, cost-sharing, which are the priority institutes, et cetera.

We anticipate that that would lead to probably a reallocation of funds that we would be interested in moving toward advanced safeguards, next-generation safeguards, as I mentioned. And perhaps, if the North Korea tasks go forward, we may need to move some funds there.

I would note also that, frankly, for the current fiscal year we had asked for \$20 million, and the Congress gave us \$30 million. So this is not something that we have been pushing.

Mr. SIMPSON. Right. I think you will find that most of us are supportive of the fact that we need to engage these scientists and not let them get on the market, because eliminating the spread of nuclear technology includes those individuals who know it, and so forth. And so I think the program is an important program. But we want it to be an effective and cost-effective program.

And there will be a series of questions that we have that we will submit for you, which will deal more specifically with the program. But is there an end to this program?

Mr. TOBEY. I think that is a good question. I mean, I realize that there has been criticism of the program because there is no exit strategy. But an exit strategy—you know, at some level, if you continue to worry about a threat emanating from these institutes, you should continue to be there.

We could take the view that, just as we are going to wind down our MPC&A projects by 2012, we should wind down our scientist engagement programs.

On the other hand, the fact that we are ending our security upgrade programs, which are far more expensive—there are a lot more capital costs, et cetera, involved in that—that might make you come to a conclusion that it is a reason to continue the scientist engagement programs, to ensure that we understand that the measures we want to happen on sustainability are actually practiced, that there is a security culture in place, that we understand that their scientists know what needs to be done.

I lean toward the latter, but I am certainly open to discussing that.

Mr. SIMPSON. Do you ever get feedback from the Russians that we are trying to employ their scientists, get them out of this nuclear arena and stuff that we are involved in in that activity, and one of our complaints in this country is that we don't have enough nuclear scientists, that we need to engage more in nuclear education and so forth?

Mr. TOBEY. I haven't heard that from the Russians.

Mr. SIMPSON. Good.

Mr. VISCLOSKY. Mr. Tobey, in your answer—and I appreciate the efforts you are making on the IPP program, based on the study. If you could, for the record, as far as the initiatives you have taken, how many of those you think will actually be implemented by the end of this fiscal year and which ones would take place in 2009, I would appreciate that.

Mr. TOBEY. Okay.

Mr. VISCLOSKY. Thank you.

Mr. Edwards.

Mr. EDWARDS. Thank you, Mr. Tobey.

SECURITY ISSUES

I think you said in your opening statement, talking about WMD and the related technologies, equipment and expertise, "This poses one of the most serious threats to United States and international security." Certainly the President has said that; I certainly agree with it. I think this discussion on nuclear nonproliferation is more important than any hearing anywhere in the Capitol today or next week or the month after.

But I want to ask you about the budget.

We have got Al Qaida. The administration says Al Qaida is clearly trying to do everything it can to get its hands on nuclear weapons. And we have seen the quotes from its leaders saying if they ever got their hands on a nuclear weapon, it would be their religious duty, unbelievably, to try to detonate that in the United States.

I won't take time saluting you for the good things you have done—a lot of good work in Russia, a lot of good work on trying

to stop the spread of nuclear materials. And I do salute you for that. But we have still got a lot of work to be done.

As I understand it from your testimony, only 12 of 75 Megaports have been given radiation-detection equipment. I think you are working on 17 others. That still leaves a lot of others out there. Only 117 of 350 border crossings have radiation-detection equipment. Technology challenges still in that detection equipment.

As I understand it, only 2 percent of ship containers, less than 2 percent of ship containers are X-rayed overseas. That is not comforting. I wonder how we would feel if we only had—and that is the Department of Homeland Security's responsibility—but I wonder how we would feel if only 2 percent of passengers getting on commercial aircraft were being checked.

BUDGET CUTS CONCERNS

And then we have materials protection work that needs to be done outside of Russia.

Respecting the progress that the Department of Energy has made in nonproliferation but recognizing the needs that have not yet been met, why would you ask for a \$79 million cut in the proliferation detection research and development, knowing we need more research, in terms of addressing some of the technological challenges?

Why would you ask for a cut of \$195 million in the Materials Protection and Cooperation account? Recognizing we have accomplished a lot of Russia, but there are a lot of other non-Russian countries where we could do material protection work.

And then why have you cut the Second Line of Defense account by \$54 million?

I don't understand those cuts, given the increasing threat, your statement, and the high priority this should be. I would like to hear your answer, please.

Mr. TOBEY. Sir, well, I appreciate the concern that you have about those threats, and we share that concern.

I think the best thing that I can do with respect to your question is to provide some context in terms of the thinking and how we ended up where we did in terms of the budget.

The first point that I would make is that I don't think the president's budget—the cuts you cite are those from the current appropriation. And I understand why you cite those as cuts.

Mr. EDWARDS. It is because they are cuts.

Mr. TOBEY. The president's budget, though, I think was not a response to the 2008 appropriation, where that bill was passed very, very late in our 2009 budget cycle. In other words, essentially, those budget decisions had already been even before we knew where the Congress had come out on the amounts that were appropriated.

I would add that our budget has roughly doubled since 2001—

Mr. EDWARDS. What is your budget? For nuclear nonproliferation programs.

Mr. TOBEY. The current request is for \$1.247 billion.

Mr. EDWARDS. 1.247. Let me just say for the record then—I won't ask you to respond to this—that is equivalent to three days' expenditure for the Iraq war.

Please go ahead.

And doubling since 2007—that does not take into account inflation, is that correct?

Mr. TOBEY. That is correct.

Mr. EDWARDS. It doesn't take into account the devaluation of the dollar, which has been very significant for overseas activities, is that correct?

Mr. TOBEY. That is correct.

Mr. EDWARDS. Okay. Please go ahead.

Mr. TOBEY. And the budget philosophy that we have followed is, after that budget, to put these programs on basically a gentle up-slope, even though other parts of the federal government were under more pressure.

Mr. EDWARDS. How is cutting \$79 million, \$195 million and \$54 million a "gentle up-slope"?

Mr. TOBEY. Well, I was citing that from our previous request. In other words, we budgeted out over five years, and that plan is for a gentle up-slope. Our request for 2009 was a gentle up-slope from our request from 2008.

In the meantime, the Congress—

Mr. EDWARDS. But a significant down-slope from what we appropriated.

Mr. TOBEY. The Congress did appropriate considerably more.

Mr. EDWARDS. Let me get to the—

Mr. TOBEY. And there was one further point I wanted to make, was to repeat something I said last year when asked about the possibility of more money. I said that if the Congress saw fit to appropriate more money and the president signed it into law, we would spend it enthusiastically, and we are.

Mr. EDWARDS. Well, I will just conclude with this. It just seems to me our country decided to try to end World War II and protect perhaps a million American lives against war with Japan by the Manhattan Project. We decided in 1960 to put a man on the moon by the end of the decade, and we did it. We decided there are a lot of potholes in highways around the country, and we had billions of dollars to fix it.

The president says this is the number-one unmet national security need; it should be our nation's top priority. I will just say, when I look at the budget, notwithstanding the good work that you have done—and you have done a lot of good work—I don't think there would be enough evidence in the budget request to convict us if we were accused in a court of law of making this our number-one national priority.

And it just seems to me that when it comes to protecting our country from nuclear threats, which you know better than I do exist out there, we should cut no corners. And this doesn't look like a man-on-the-moon, Manhattan-style project. And I would think protecting America from nuclear terrorist attacks would be more important than putting a man on the moon and certainly equivalent to trying to develop the atomic bomb to end World War II.

We will look forward to continuing to work with you.

I assume that all needs have not been met. Put it this way: I am not going to ask you if this is an inadequate budget, because I know OMB tells you you have to say, "Yes, it is an adequate budg-

et.” But all needs have not been met, in terms of nuclear non-proliferation efforts, have they?

Mr. TOBEY. There is more work to be done, sir.

Mr. EDWARDS. Okay. Thank you.

Thank you, Mr. Chairman.

Mr. VISCLOSKY. Mr. Calvert.

Mr. CALVERT. Thank you, Mr. Chairman.

SECURING NUCLEAR ARSENAL AND NUCLEAR MATERIAL

Sir, based on your testimony, we have spent a considerable amount of money, obviously in Russia and other places, to assure that the security of the arsenal and the material takes place.

As you are aware, last year six nuclear weapons flew from one Air Force facility to another in place of dummies and obviously by accident. And just recently, we found that four fuses instead of batteries were sent to Taiwan, and for 18 months, they sat there. And the Department of Defense didn't even know that they had sent those fuses, even though Taiwan, apparently, had contacted the Department of Defense on several occasions and let them know that they had something there that they thought were helicopter batteries.

Obviously, that is not your purview, the Department of Defense, to secure their own weapons and their own fuses, et cetera. But perceptually, as you go around the world convincing others to secure their nuclear weapons and to secure their nuclear material, is that being shot back to you, about are we doing enough to secure our own nuclear arsenal and our own nuclear material?

Mr. TOBEY. Frankly, we try and deal with these issues in a cooperative way. So, far from having these things shot back to us, we occasionally cite them and say, “Look, we understand that materials security is a difficult matter, and that is why it requires extra caution, extra measures.” And, as a consequence, you know, we are willing to cite even our own failings, when they become public, in dealing with other countries to encourage them to improve their practices.

Just as an example of this, I had a discussion with our Russian colleagues, and I cited the fact that, you know, a friend of mine is a parachutist. At the back of a parachuting magazine, they often have what they call incident reports. The incident reports are there not out of a, sort of, ghoulish interest, but to prevent others from having the same activity occur. And I cited reports of either material getting loose or these other things as our equivalent of incident reports, and we should treat them as such.

Mr. CALVERT. On that, do we have complete assurity that the fuses weren't reverse-engineered in Taiwan?

Mr. TOBEY. That really is an area where I don't have any knowledge of what has gone on there.

Mr. CALVERT. While we are talking about activities within the United States, I noticed that in your budget request you have \$14.4 million to secure domestic sources. So I guess the question would be, why do you need that money to secure domestic sources? You must believe that we are not doing enough to secure our own nuclear material.

Mr. TOBEY. The domestic sources are domestic radiological sources that become disused by industry. And there isn't a good disposition path for some of those sources. Or they might have been owned by companies that have become bankrupt. So we have actually secured some 16,000 sources.

Mr. CALVERT. Isn't it true that, because, rightfully or wrongfully, since we have not moved ahead with Yucca yet and we have a secure location to place a lot of this material, we have hundreds of locations where we have radioactive material just kind of out there? Is that an accurate statement?

Mr. TOBEY. Well, it is accurate, certainly, to say that there are hundreds—

Mr. CALVERT. Is it accurate to say that some locations are more secure than others?

Mr. TOBEY. Yes. We are working to upgrade the security, with both private industry and other elements of the government, of radiological sources.

Mr. CALVERT. How secure would you say that material is?

Mr. TOBEY. Well, I said in my opening statement that one of our priorities is, in dealing with what we perceive as a dynamic threat, has been to move from the nuclear weapons material, which we are winding down our work on, to the radiological—the civil nuclear and radiological material. So I am concerned about it.

PAKISTAN

Mr. CALVERT. One last question, regarding Pakistan. We all read the newspapers and the difficulties that Pakistan is having with their government. What is your assessment of the dedication and competence of the Pakistani military to secure their own nuclear arsenal?

Mr. TOBEY. My understanding is that they have a very professional military. And I believe they are motivated to secure their own arsenal.

Mr. CALVERT. So if an unfortunate circumstance takes place where a government that is not favorable to the United States' interest takes over, you believe that the nuclear weapons systems would be secure?

Mr. TOBEY. Well, there you have moved into the realm of the political, and I am not an expert on how the Pakistani military relates to their political superiors.

Mr. CALVERT. So the answer is we don't know.

Mr. TOBEY. Well, the answer is I don't know.

Mr. CALVERT. Thank you, Mr. Chairman.

Mr. SIMPSON. Would the gentleman yield for just a second?

Mr. CALVERT. Sure.

SECURE STORAGE LOCATIONS

Mr. SIMPSON. These U.S. sources of unsecured material, where do we store those? Where do we put them?

Mr. TOBEY. We—

Mr. SIMPSON. You are looking for secure storage locations, because I am going to suggest a couple. Where do we put them now?

Mr. TOBEY. My understanding is that they go into a facility called the WIPP, at this point.

Mr. SIMPSON. So they go for permanent repository?

Mr. TOBEY. Yes.

Mr. SIMPSON. If there are places where they need to be stored, let me suggest there are a couple places called 651 and 691, which are pretty good locations.

Mr. HOBSON. Yes, I don't think that is correct. WIPP only takes defense material.

Mr. TOBEY. Perhaps I had better look into it and get back to you.

Mr. HOBSON. Yes.

Mr. SIMPSON. If you need additional space, I know where we can find it.

Mr. HOBSON. But let me tell you, WIPP is a great repository and ought to be, at some point, enlarged, because it has done a great job.

Mr. EDWARDS. Where is it?

Mr. HOBSON. New Mexico.

Everybody on this committee, in my opinion, if you want to see a success story in repositories, that is one you ought to visit at some point. They are receptive, it works well, and it is a success story. It is in a rock formation that could, in some places, be used a lot better than where we are doing some other things. However, the way this is set up, I don't think it takes that.

PAKISTAN

Mr. VISCLOSKY. And, Mr. Tobey, following up on Mr. Calvert too, do you have enough money in your 2009 request relative to the activities you undertake with Pakistan? Is there any shortfall we should be concerned about from a monetary and budgetary standpoint? Because we have other questions for the record, but I am just wondering about the money.

Mr. TOBEY. Sir, I—

Mr. VISCLOSKY. Do you want to get back to us? I just want to make sure you have enough money.

Mr. TOBEY. Okay.

Mr. HOBSON. If, by some hook, you have gotten this material into WIPP, I would like to see the Office of Counsel's legal opinion that allows you to do that.

[Laughter.]

Okay?

Mr. TOBEY. Certainly.

Mr. HOBSON. If they don't have it, I am sure they can manufacture it.

Mr. VISCLOSKY. Mr. Ryan.

Mr. RYAN. Thank you, Mr. Chairman.

A couple of questions, a couple of different areas. I appreciate you coming.

Let me first, kind of, second what Mr. Edwards was saying with regard to the budget and the priorities of the administration. And there is nothing more frustrating than rhetoric saying one thing and the numbers submitted by the administration saying something different.

I have a question on how you determine which entities will execute the various activities within your nonproliferation programs. In other words, how do you decide how the work will be done—pri-

vate sector, DOE labs, universities? The broad agency announcement is one vehicle that allows for a head-to-head competition to select the most cost-effective solution, but it is rarely used. So how do you determine?

Mr. TOBEY. I believe it is a combination of a number of factors, including costs, expertise, urgency of the need. There are varying levels of, for example, familiarity with Russian institutes. In some cases, the National Labs are quite familiar. In other cases—of course our work varies greatly, in terms of the actual activities. I mean, we have gone to small businesses for large amounts of our Megaports work.

So, I mean, it varies enormously. Obviously, with construction projects in Russia, the expertise that is needed is also different.

Mr. RYAN. So there is no straight, kind of, formula or information that you need in—

Mr. TOBEY. Well, we do so many different types of things. You know, we are building fossil fuel power plants at Seversk and Zheleznogorsk. We are putting up Megaports detectors at ports around the world that are much smaller construction projects. We are dealing with Russian institutes. It really varies a great deal from project to project.

COMPETITIVE SOLICITATION

Mr. RYAN. The omnibus provided direction to conduct a competitive solicitation open to all federal and nonfederal entities. And I understand that you have issued the solicitation, something that other elements of DOE seem to have difficulty doing.

Did you have any difficulties getting the solicitation out the door? Are there any lessons that other programs should learn from your experience?

Mr. TOBEY. Not to my knowledge. And I am sure we would be willing to talk to our DOE colleagues if that would be helpful.

RUSSIA

Mr. RYAN. Okay. And then, lastly, we have been talking a little bit about Russia. One of the issues is the insider threats. And I don't know if you touched upon this before I got here or not. But what programs are you developing to try to counter some of this that is happening over there with the bribery?

You know, it is one thing to put a fence up and make sure people aren't coming in and out that you don't know. But it is the old adage with the local shop, you know, it is the inside person working there that is going to steal money from you.

What are you guys doing in terms of trying to combat that and having some kind of system in place?

Mr. TOBEY. That is a very serious threat, and there is no perfect single answer to it.

The fences and, for example, metal and radiation detectors can help, so that people entering and existing facilities need to go through these things. And that should help to deter and perhaps detect efforts.

We also have helped in terms of personal reliability programs. And that is a part of it.

I would say the largest single part of it is an appropriate security culture, making sure that the management understands that there is a comprehensive web of activities that need to be undertaken to attempt to deal with the insider-threat issue.

And, in that regard——

Mr. RYAN. Is that done by the Russians, or is that——

Mr. TOBEY. Done by the Russians. But we work with the Russians on these issues to discuss best practices and practical means of putting them into place. And we have helped to build a facility to train Russian guards.

So it is a whole range of activities, because no one of them can actually achieve what we would hope to. And I agree with you, that is an extremely serious threat.

That is also one of the reasons why we are working hard on sustainability. Several members have cited the fact that we have made an enormous effort in Russian security. And I agree we need to protect that investment.

And so we are working to ensure that the Russians have a proper security culture. We have reached an agreement with Ros-Atom on the principles of sustainability. And we have been talking with our counterparts in the Russian military, as well.

Mr. RYAN. Is there anything more we can do from this end?

Mr. TOBEY. To the extent that you all visit Russia, I would be——

Mr. RYAN. I was hoping you would say that. No, I am kidding.

Mr. TOBEY [continuing]. I would greatly appreciate the fact that you could mention the need to get the Bratislava work done and the need to apply good sustainability measures.

Mr. RYAN. Okay. Well, we may consult you when we head over there.

Mr. TOBEY. Good.

Mr. RYAN. Get your advice.

Mr. TOBEY. Thank you.

Mr. RYAN. Thank you.

Mr. VISCLOSKY. Mrs. Emerson.

Mrs. EMERSON. Thank you, Chairman.

REPROCESSING ACTIVITIES

Welcome. Thanks for being here. I have got three questions I want to ask you about reprocessing activities, if I could.

In the larger scheme of all the different proliferation risks around the world, how would you rank the relative risk of the plutonium separated by reprocessing activities in France and the United Kingdom?

Mr. TOBEY. I don't see the activities in France and the United Kingdom as serious proliferation threats. As you know, both of those are nuclear weapons states. However, this is a technology that we, as an administration, the president personally, has said he would like not to spread.

NONPROLIFERATION RISK

Mrs. EMERSON. So how would you compare the nonproliferation risk of this weapons-usable material in those countries relative to

the same material in other countries and also relative to other special nuclear materials and dirty-bomb materials?

Mr. TOBEY. I guess I would—well, there are two ways in which, in the abstract, without talking about specific countries, in which separated plutonium might pose a threat. One is that the government of the country in which the material resides could use it for its own program, a breakout program, if you will, under the NPT. And the other is in which it might be diverted, either to a rogue state or to a terrorist organization.

You know, and I think you have to look at each of those circumstances before looking at—

Mrs. EMERSON. So, from a nonproliferation standpoint, is the real concern the materials, the reprocessing activities that produce those materials, or the countries that are running the activities that produce the materials, from your perspective?

Mr. TOBEY. I guess it is all three. I mean, I don't mean to be difficult, but North Korea achieved its nuclear capability by reprocessing its spent fuel. Obviously, that is an enormous proliferation threat, from our perspective. What France and the U.K. has done is not a threat, from our perspective.

Mrs. EMERSON. Okay. Let me just stop there only because I am losing my voice here. So if you all want to follow up at all with those questions, feel free. Thanks.

Mr. VISCLOSKY. Mr. Serrano.

Mr. SERRANO. No questions, Mr. Chairman.

Mr. VISCLOSKY. Mr. Hobson.

Mr. HOBSON. The department is supporting special legislative authority in a different bill for this work. Why are you pursuing this special authority in a non-DOE bill? And are you asking for this language in the upcoming supplemental?

NORTH KOREA

Mr. TOBEY. The North Korea work is a difficult question because, frankly, we don't know exactly what the North Koreans will permit us to do—import disablement and dismantlement.

We are concerned that the Glenn Amendment prevents us from spending money within North Korea to disable or to dismantle. If, in fact, we were permitted to go forward in North Korea, the costs could be quite substantial.

But we don't, frankly, know whether that would be possible. And that confronts us with a budget quandary. It is difficult for me to come forward and say that I would like a specific amount of money from you for work in North Korea when I don't know whether in fact we would be permitted to spend it.

I will tell you openly, though, that if, in fact, we were permitted to go forward as fast as possible, the costs associated in 2008 would be about \$50 million, and the costs for 2009 would be about \$360 million.

Mr. HOBSON. Well, let me ask you about that. How much of the Nuclear Nonproliferation budget is designated in the request for activities relating to this disablement or dismantlement and verification of nuclear activities in North Korea?

Considering the negotiations with North Korea—well, that is one question. I have got another one that will go with what you are talking about.

Mr. TOBEY. There is a relatively modest amount of money, I think, to—

Mr. HOBSON. You have got some money now.

Mr. TOBEY. Right, we do. But my understanding is that we can't spend that money in North Korea because of the Glenn Amendment.

Mr. HOBSON. Considering that negotiations with—

Mr. TOBEY. I am sorry, sir. We are doing what we can to prepare and spending money within the United States. So we have undertaken some long-lead-time procurements. We are working on some technological solutions that could be useful.

Mr. HOBSON. Because you know where I am going. Can you reduce your budget? If you are not considering negotiations with North Korea as they have reached an impasse, and if further disablement and dismantlement and verification activities in North Korea may not be implemented, can NNSA reduce its 2009 request? Or are you just going to figure out how to spend it all?

Mr. TOBEY. The strategy we have taken is to try and ask for relatively modest amounts of monies to deal with this activity for things that would be useful probably in any event—these would be useful national capabilities—and not to ask for the larger amounts of money that would be necessary if we could do all that we would hope we would do.

Mr. HOBSON. My problem with a lot of the ways we act is like when I was in the military 40 years ago. We would have money in an account, and if we didn't spend it all that year, we were worried that we wouldn't get it back next year.

You guys operate, I assume, still under the same thing. Trying to spend all your money, because you are worried if you don't spend it all this year that everybody is going to look at you when they make up your budgets and say, "Well, we will cut this back." Then you would have to start all over again. I worry about that.

Mr. TOBEY. We have done essentially the opposite. And, frankly, it concerns me because it means that we are at some risk. I mean, we would have right now unfunded obligations or unfunded activities to the tune of \$50 million for 2008 and \$360 million in 2009 if we were to go forward as fast as we could in disabling the North Korean nuclear program.

Mr. HOBSON. All right. Let me go back to one other one here.

IPP PROGRAM

The GAO issued a report in December containing some devastating criticisms of the IPP program. What steps has DOE taken to implement the recommendations GAO made in its recent report on the IPP program?

Mr. TOBEY. As I noted earlier, we agree with all of the recommendations of the GAO, save one, and that one was on the comprehensive review. We believe that that review was, in fact, taken.

We are working to implement those recommendations. We are going beyond that, as I mentioned, in that we froze projects of concern that were mentioned in Congress elsewhere; that we have

gone to the interagency to establish terms of reference that would govern not only our program but also the State Department's program and ensure that there is consistent application of the standards across both of those things; that we have determined that we are going to limit our projects to high-priority institutes and phase out the others; that we will gain Russian agreement over the next several months on cost-sharing; that we would phase out projects at institutes not rating as high-risk; that we would continue programs that would deal with the threats from Iraq and Libya and maintain a capability to deal with other areas, for example, North Korea, should it become necessary; that we would pursue non-proliferation technology projects outside of the IPP; and that we would formalize this interdepartmental and interagency agreement that we would aim for; and that we would, in fact, probably be interested in shifting some of the funds away from this program.

And, as I mentioned, this plan is one in which I am attempting to consult with members of Congress on and am eager to have input.

MOX

Mr. HOBSON. Let me ask you one last thing. In the MOX area, we did this whole deal to begin with, to get the Russians to do something with a certain amount of their weapons-grade plutonium.

Did the Russians ever sign an agreement?

Mr. TOBEY. Well, they signed the Plutonium Disposition Agreement in 2000. Secretary Bodman and Director Kiriyaenko issued a joint statement on the Russian path forward recently.

Mr. HOBSON. What did that statement say?

Because the Russians have told us we are nuts. The guy sat right in here with Pete and me, and he said, "You people are nuts." He said, "You are going to go ahead and you are going to do this program and spend all this money. We think it is old technology; we are not going to do it." I have been saying that they told us this; nobody listened. But for jobs' sake, we went forward and did this deal that the secretary and the President made to give jobs to South Carolina. In return for what, I don't know, but I suspect I know.

So we are going forward. The Russians said, "We are not going to do that technology. And we are not going to do it. We are going to do it a different way, if we do it. But we will do it." The Russians have a tendency in their mind to technically live up to treaties and agreements that they sign. They may not do this for generations, because they are going to do it in a different way. They are going to do it in a fast reactor, which I tried to get our people to do, but, naturally, that wasn't part of the deal made by this administration.

And all along, I was told by one United States Senator two years ago that this agreement was signed and that he had seen it. That changed. It wasn't really signed. Then there was a fight over liability, which I don't think was ever resolved.

So where are the Russians today under the agreement that was signed many years ago? We are going forward and going to spend \$11 billion on what they think is a nutty deal. The chairman and

I sat here with the Russians, in this room, when they told us this. So we didn't make it up.

What are they doing today?

Mr. TOBEY. Sir, we did listen to you.

Mr. HOBSON. No, you didn't, because you went ahead and spent \$11 billion or you are going to spend it. If you think it is only \$11 billion, you would believe in the tooth fairy. It is going to be a heck of a lot more than \$11 billion before you are done.

But go ahead.

Mr. TOBEY. You urged us that the Russians should pursue a disposition path that was reliant upon fast reactors.

On November 19th of last year, Secretary Bodman and Director Kiriyenko issued a joint statement that said that, taking into account the work of experts carried out pursuant to the joint statement of July 2006 on plutonium disposition and also the technical consultations and the possibility of involving the BN-600 and BN-800 fast neutron reactors in Russia's program, have arrived at the following mutual understanding concerning U.S.-Russian cooperation in this area: Ros-Atom plans to implement the Russian program for plutonium disposition within the framework of the strategy for developing Russian nuclear energy based on irradiating weapons-grade plutonium in the form of MOX fuel in, A, the BN-600 reactor at Beloyarsk NPP and, B, in the BN-800 reactor, which will be built at the same site.

They are pursuing their plutonium disposition path through the use of MOX fuel in fast reactors. And it is likely that they will actually begin disposition of their fuel before we do. They will complete it, likely, somewhat after we do. But the two programs will be on approximately the same trajectory.

Mr. HOBSON. Do you have anything other than a press release?

Mr. TOBEY. Well, this is a joint statement issued by——

Mr. HOBSON. I know, but a joint statement is a joint statement; it doesn't mean anything. It is not a signed agreement. Anybody can deviate at any time. I can get together a lot of guys and give a press release. That is all that is, is a press release.

Frankly, what you are telling me is they are doing it in a way that is cheaper, probably better, and creates better return on the dollar than our program. They are using a new technology; we are going to go back and use an old technology. We could have done it the other way also.

Mr. TOBEY. Well, with respect to whether——

Mr. HOBSON. We are going to subsidize some guys to use it, which we are doing today.

Mr. TOBEY. With respect to——

Mr. HOBSON. You won't tell us how much subsidy you are giving to Duke Power either.

Mr. TOBEY. With respect to whether or not we have an agreement, this joint statement we regard as a political commitment. We understand that it will need to be codified in amendments to the Plutonium Disposition Agreement, and we are working on that with the Russians. We have submitted to them draft amendments to that agreement. We anticipate being able to negotiate it.

I would add, also——

Mr. HOBSON. I would hope in my lifetime. I won't say in my congressional career, because it is coming to an end. But in my lifetime I would hope to see that. The other agreement that was supposed to be signed was never signed, as far as I know.

Mr. TOBEY. I would add, also, that this agreement we believe is consistent with the Russian overall energy plan. And as a consequence, they are much more likely to follow it.

Mr. HOBSON. They told us years ago, that is what they were going to do. We kept insisting to do it a different way—

Mr. TOBEY. That is why I am saying I listened to you last year when you made this point, and we negotiated a joint statement that allowed a different path, that will allow the Russians to go forward.

Mr. HOBSON. I just don't like the waste of \$11 billion when the Russians sat here and everybody—four years ago or three years ago—said, "We are not doing it." Everybody in our Energy Department said, "Oh, yeah, they are going to do it, they are going to sign it." The Senate says, "Oh, yeah, they are going to sign it."

Well, they never did sign it. They told us in the very beginning of the negotiations years ago that that is what they were going to do, and we just didn't listen once again.

We are going to waste a bunch of taxpayers' dollars for a jobs program that I think is nuts. But, you know, I lost.

Mr. TOBEY. Sir, in addition—I understand that you oppose the program overall, but you also asked me to do three things, with respect to the program: to make sure that we had a defensible baseline; to make sure that we looked at additional missions; and to get the Russian program in order. That is what you asked of me last year.

Mr. HOBSON. Hopefully you have.

Mr. TOBEY. And I would argue that we have done all three of those things.

Mr. VISCLOSKY. I owe Mr. Serrano recognition, but I do just want to follow up on Mr. Hobson's line of questioning.

In your budget for 2009—talking about MOX, in 2007 there was no request for Russian materials disposition. There was no request in 2008 for Russian materials disposition. You asked for a million dollars this year. What is the million dollars for?

You know, \$1 million. What is MOX? \$11 billion? What are you going to do with a million dollars?

Mr. TOBEY. Well, we understand that the Russian program, you know—what we need to do is get the Plutonium Disposition Agreement amended consistent with the joint statement that we have talked about. There are some costs associated with that. We will need to negotiate this with them. But we understand that this is not—

Mr. VISCLOSKY. So we are going to give them—is the million dollars—because the money has been flowing to the Russians, obviously, for them to do MOX.

Mr. TOBEY. Pardon me?

Mr. VISCLOSKY. The money for the agreement with the Russians, that money in the past, up until 2007, has been money for Russia out of this account.

Mr. TOBEY. Right. Right. I am sorry, I misunderstood.

Mr. VISCLOSKY. Now, this million dollars—

Mr. TOBEY. I will have to get back to you on what the million dollars is for.

Mr. VISCLOSKY. Well, let me ask you this: Is it going to the Russians?

Mr. TOBEY. I need to get back to you, sir.

Mr. VISCLOSKY. Okay. Thank you.

You must have penmanship like me.

Mr. TOBEY. Yes. I think I will have to get back to you.

Mr. HOBSON. Can you do that before the end of this year?

Mr. TOBEY. Sure.

Mr. VISCLOSKY. No, I am very concerned—because it is just, a million dollars, for the average person—not just the average person—to anyone—that is a lot of money. For this program, where it has been tens and hundreds of millions of dollars going through—well, I shouldn't say hundreds of millions, because there isn't a lot of money going to Russia on this.

And Mr. Hobson is absolutely correct. We sat at this table, whatever the date was, and it has been some time ago, and they just were dismissive, to be polite about it.

Mr. TOBEY. They were dismissive of the use of MOX with light water reactors. They wanted to use fast reactors. And we have agreed with them on a disposition path that would use fast reactors.

So, anyway, so I think that is real progress, frankly.

Mr. VISCLOSKY. But for the last few years, we haven't asked for any money, but now we are asking for a million. One, is it going to the Russians, or is it going—

Mr. TOBEY. I will have to get back to you on that.

Mr. VISCLOSKY [continuing]. To somebody in your department? And what is it for? I would appreciate it.

And with apologies to Mr. Serrano, just two other little clean-ups here.

Mr. Hobson has hit a line of questioning on—and, I believe, also Mr. Simpson has—on the IPP program. I would just have one final point on that, relative to GNEP.

Recognizing that there is no formal U.S.-Russian agreement for nuclear cooperation, what steps has DOE taken to ensure that any cooperation and assistance provided to IPP projects in Russia to advance the Global Nuclear Energy Partnership are compliant with the terms and requirements of the Atomic Energy Act?

Mr. TOBEY. We made sure, sir, that the technology flows were from Russia to the United States, not the other way around.

Mr. VISCLOSKY. So you are saying you are compliant.

Mr. TOBEY. Yes.

Mr. VISCLOSKY. Okay. And one—

Mr. TOBEY. In other words, the Atomic Energy Act governs U.S. technology going overseas. We made sure that the technology flows, in this case, weren't the other way.

Mr. VISCLOSKY. Okay.

Mr. Ryan had a series of questions about competition, which, again, the entire subcommittee and Mr. Hobson and I take very seriously. You did respond, but if you could, just for a moment, for

me, or if you want to expound further in the record, that would be fine.

The labs do great work. I think, too often, because our job is to fix problems and things, we tend to be very critical. I understand they do very good work.

But I have always been very concerned that, outside of the weapons labs, there are other labs. There are some great learning institutions in the private sector. You are doing everything to make sure of that competition. The labs have the expertise, so the labs get it." And, again, that could absolutely be true, and I am all for it. You are making every effort to make sure it is a fair fight, as far as these competitions, between the private sector, universities, other labs, as well as the weapons labs. I just would want to be assured of that.

Mr. Serrano.

Mr. SERRANO. Thank you, Mr. Chairman.

A couple of days ago, the New York Times reported on a GAO report which indicated that the Department of Energy has a stockpile of partly processed uranium that could be sold for great profit.

Do you happen to know who this material could be potentially sold to? Are there any proliferation concerns if this material is sold abroad?

Mr. TOBEY. I think that this, as I understand it—and I deal with this to some extent, but it is not directly under my control—the amount of uranium that is sold by the department into the open market is governed by law, so that we don't distort the market.

I think that it is primarily sold to U.S. utilities, and that if it is, in fact, sold abroad, it would be sold under the same conditions that any uranium would be, that we would make sure that we knew who the end-user was, that it was used for peaceful purposes, nuclear-energy generation, et cetera.

Mr. SERRANO. So this is by law, you say, that—

Mr. TOBEY. Correct. The Atomic Energy Act and other laws govern—well, the Atomic Energy Act governs where it can be sold. And there are laws, I believe, regarding the amount of material that can be sold from our stockpiles.

But, as I say, that is not directly under my control, so—

Mr. SERRANO. I understand.

Mr. Chairman and Mr. Ranking Member, I would like to see the committee get information as to—the gentleman says it is not under his control—whose control is it under, and just to double- and triple-check that this uranium is not going to land up where it shouldn't land up.

Mr. TOBEY. The Office of Nuclear Energy is actually in charge of the sales.

Mr. VISCLOSKY. We have a hearing with that office on Thursday of next week, Mr. Serrano.

Mr. SERRANO. Thank you, Mr. Chairman.

Mr. VISCLOSKY. Mr. Simpson.

Mr. SIMPSON. Thank you, Mr. Chairman.

Just one quick question, kind of in response to Mr. Edwards' and Mr. Ryan's question about the president's priority in his budgeting.

How much of your budget—if you can put it terms of how much of—how much of your budget is dependent on the cooperation of other countries?

I mean, it is hard to budget to do North Korea if North Korea doesn't cooperate and allow us to do that. It is kind of hard to get into the closed cities in Russia if Russia doesn't allow us to do that. We can't just go to every country and say, "We want to put a Megaport here."

Mr. TOBEY. I paused only because I was thinking about maybe an extreme position. I think it is defensible, though maybe not perfectly defensible, that all of our budget depends on cooperation with other countries at some level.

Mr. SIMPSON. So, actually, if we just threw a whole ton of money at you, that doesn't necessarily mean you could spend it effectively or that nonproliferation would be a higher priority?

Mr. TOBEY. That is correct.

And also we are constrained by things like construction seasons. You know, we couldn't go faster, for example, in completing the Bratislava Initiative. We are going as fast as we can, given the constraints of construction seasons in Russia, where it can get to 40 degrees below zero, the number of Russian contractors that are permitted by the Russian government to operate in their sensitive facilities. There is only a limited number of those contractors, who have limited capabilities, et cetera.

Mr. SIMPSON. As an administrator that is responsible for making sure that taxpayers' dollars are spent wisely, is it ever possible that you can budget too much money, that it wouldn't be spent effectively?

Mr. TOBEY. Sure. I mean, it is, yes.

Mr. SIMPSON. So necessarily looking at the bottom line doesn't indicate whether this is a priority with the president or not.

Mr. TOBEY. I believe that is right. And I would take vigorous issue with anybody who said that this isn't a presidential priority.

Mr. SIMPSON. I agree with you. I have talked to him personally about it, and I know it is. So I just wanted to make those points clear, after some of the comments that were made. I appreciate it. Thank you.

Mr. TOBEY. Thank you, sir.

Mr. VISCLOSKY. Mr. Calvert.

Mr. CALVERT. No additional questions at this time, Mr. Chairman.

Mr. VISCLOSKY. Mr. Tobey, I understand that on measuring the success of protecting nuclear materials, we measured the success of this program by the number of sites that have been protected. The need for the program is apparently winding down.

In 2006, the administration changed the accounting and measuring mechanism, as far as success, by measuring the percentage of facilities that have received upgrades rather than the percentage of materials captured by the upgrades. Why was the change in method made?

Mr. TOBEY. I think it was made because, frankly, we didn't have accurate data on the amounts of material that were at particular sites. That is something that the Russians—we can make estimates

of that, but the Russians don't disclose how much material is at which sites to us.

And I know that, in my case, what I was interested in—and some of this change started before I arrived; some of it happened afterwards—but when I became involved in it, what I was interested in were objective measures.

And I wanted, also, to make sure that we didn't count half-measures as sites that had actually been completed. In other words, either the security work is completed or it is not completed. So when I talk about the 85 percent where work had been completed, that is where we believe that all that is necessary to be done has been done.

There actually, in the remaining 15 percent, in some cases, maybe all cases, there had been at least interim measures that had improved the security somewhat while we were working on the longer-term solution, but I don't count those.

Mr. VISCLOSKY. While we are talking about security, I would follow up on Mr. Ryan's line, you responded to the whole issue of the personnel at these facilities. If there is something we are missing or can be more helpful on in that regard, we would certainly want you to let us know.

Mr. TOBEY. Thank you.

Mr. VISCLOSKY. Are there any activities or projects that will be completed or nearing completion under your control in fiscal year 2009? Any in particular?

Mr. TOBEY. Well, the end of Bratislava actually falls, obviously, within 2009, because we are working on calendar year 2008.

We are hopeful that the Zheleznogorsk reactor can be shut down within fiscal year 2009. The program might still continue—well, it would still continue, because there are obligations to finish some of the construction that enables the shutdown of that reactor. But, obviously, from the standpoint of U.S. interests, what we want is the reactor to be shut down.

Mr. VISCLOSKY. If the program comes to an end, as far as the elimination of weapons-grade plutonium, will you have an office in Russia or will that office close when the program is completed?

Mr. TOBEY. The office in Russia is associated—at the embassy—is associated with a wide variety of activities, so it would not close. But we are anticipating closing—there is an office in Washington that deals with the elimination of weapons-grade plutonium production, and we anticipate closing that.

Mr. VISCLOSKY. Okay.

You had mentioned the reactor program in Russia, and I would have a couple of questions on that. According to the budget documents, the Seversk project is scheduled for completion by the end of December 2008. You have referenced that.

One of the questions I have is—is the fossil fuel facility completed at this point in time?

Mr. TOBEY. No.

Mr. VISCLOSKY. When is that going to be completed?

Mr. TOBEY. The Seversk plant?

Mr. VISCLOSKY. Yes.

Mr. TOBEY. I better get back to you on that.

But we are in a situation now where there has been—there are two reactors there, as you know. They have gone into alternating modes so that only one is in operation at any one time. The next step will be a complete shutdown of one of the reactors. And I think we are either at or near that prospect. And then, this summer, both reactors will be completely shut down.

Now, there are—

Mr. VISCLOSKY. In the summer of 2008?

Mr. TOBEY. Summer of 2008. So we are actually a couple months ahead of schedule on that.

Now, the completion of construction is obviously associated with but not perfectly timed to the shutdown of the reactors. We are actually going to do a little better. There will be some construction that will occur after the shutdown of both reactors.

Mr. VISCLOSKY. So the reactors potentially are shut down prior to the—

Mr. TOBEY. To the completion, right.

Mr. VISCLOSKY [continuing]. The fossil fuels coming on-line.

Mr. TOBEY. Well, it is not binary. Parts of it are coming on-line.

Mr. VISCLOSKY. Okay, okay. As opposed to the whole thing, just flipping a switch and it all coming on. Okay, I got you.

When you say they will be shut down this summer, can they be started back up?

Mr. TOBEY. I would anticipate that the Russians will decommission these reactors. They do not want to operate these reactors.

Mr. VISCLOSKY. But you don't know for sure.

Mr. TOBEY. Let me get back to you on that. These are old, dangerous reactors that the Russians do not want to operate. They are obligated to shut them down. The agreement is that they will shut them down.

Mr. VISCLOSKY. But the question is—

Mr. TOBEY. Let me get back to you on what measures will be taken.

Mr. VISCLOSKY. Yes, how will they—measures so they can't start them up.

They are not shut down yet. Are they producing any weapons-grade material currently?

Mr. TOBEY. Yes.

Mr. VISCLOSKY. Okay.

Mr. TOBEY. They have gone to alternating mode in Seversk. Zheleznogorsk continues to operate. However, that material is governed by the agreement, and it needs to be safeguarded and can't be used for weapons purposes under the agreement.

Mr. VISCLOSKY. Okay. And then, for the record, if you could provide—and you have, to a large degree, answered the question as to the completion—

Mr. TOBEY. We will get you the exact dates.

Mr. VISCLOSKY. After the reactors are permanently shut down—and I am assuming, based on any change in the record testimony, that that will happen—will Russia have any capacity to produce weapons-grade plutonium in reactors?

Mr. TOBEY. Well, these were purpose-built reactors, these among others. And these are the last three of the plutonium production re-

actors. As you know, nuclear reactors, by their nature, produce plutonium.

Mr. VISCLOSKY. Okay.

The NNSA is engaged in a program to convert research reactors that use highly enriched uranium which have weapons applications to low-enriched uranium. Through the end of last year, you had apparently converted a total of 55 reactors, with only a handful to go. When will this program be completed, as far as all the at-risk research reactors being converted?

Mr. TOBEY. I need to get back to you with the exact date.

Mr. VISCLOSKY. Okay. Are we within a year or two?

Mr. TOBEY. No. In fact, and when you mentioned the fact that there were only—my count is that we have converted—

Mr. VISCLOSKY. I misspoke, is what you are saying.

Mr. TOBEY. No, no, sir. It is very close. I just want to clarify. We converted 51; we shut down four. So that totals with your 55.

Mr. VISCLOSKY. Okay, okay.

Mr. TOBEY. But the total number is in the range of 135.

Mr. VISCLOSKY. Oh.

Mr. TOBEY. Now, there are difficulties with that, in that some reactors can't be converted without the use of new reactor fuel, high-density reactor fuel. And we are working on development of that fuel.

Additionally, there is a fairly large number of such reactors in Russia. And while we have worked hard to get their agreement to convert, we don't yet have it.

Mr. VISCLOSKY. So some of that 130-odd reactors are actually not in the United States.

Mr. TOBEY. Correct. Well, many of them are not.

Mr. VISCLOSKY. Many of them, most of them probably, are not.

Mr. TOBEY. Yes. The majority of the ones that we have converted have been outside of the United States.

Mr. VISCLOSKY. I am going to have to learn more about that, because, in my mind, this was a U.S. program, territorially a U.S. program. So I will have to educate myself.

Mr. TOBEY. We would be happy to provide a briefing.

Mr. VISCLOSKY. Thank you.

Yes, go ahead.

Mr. HOBSON. I visited Chernobyl, and I visited some other facilities in Russia, and the way they looked at exposure to radiation is a lot different than we do. Frankly, the world has a double standard, because if we would have done in the world and to our citizens what they did to their citizens, we would still be beat up for it. They don't seem to be being beat up for it.

Two things I want to ask.

First, one of the reasons they had a problem at Chernobyl was a design problem. They didn't have simulators. And they had a training program going on at the time. We built at least one or two or three simulators for them in their nuclear power program.

Has there been any more of that? Or do they need more? Or are we done? Do you know anything about it?

Mr. TOBEY. Sir, I am sorry that I don't.

Mr. HOBSON. It is not weapons—

Mr. TOBEY. Exactly.

Mr. HOBSON [continuing]. But it still deals with those plants about which we are talking, the ones that can become problems.

Okay, let me switch to the other one.

Do you know what is happening with building the new—I forget what they call it—cover for Chernobyl? You know, it is cracking, and they have problems. Is that under your bailiwick?

Mr. TOBEY. It is not, sir. And I don't know.

Mr. HOBSON. I don't know either. I think we need to know in this committee, because that is a huge environmental problem.

Mr. TOBEY. I would be happy to try and get you an answer on that.

Mr. HOBSON. The world seems to be kind of standing around. The Russians are certainly standing around.

They don't seem to look at this stuff like we do. I mean, I got closer to a core than I would have ever gotten here. Some guy—a Russian—stood between me and the core, so he absorbed all the radiation. Here, they probably wouldn't even let us on the floor to see the rods.

So there is a difference. And that is part of our difficulties in our understanding of how we deal with these people.

One of the things we don't want to have happen is, where there are design flaws, as there were in those plants. You know, the French have done cookie-cutter plants. We didn't; the Russians didn't. We should all look and see, as we go into these next generations of plants, that we don't have all these different designs. We need to know what is going on when there are design problems.

We have had a design problem and some technical problems in one plant that Marcy Kaptur talks about. There acid was eating through.

So that really isn't your area. I am just trying to figure out whose area it is because some of these things have weapons potential, some of them have explosive potential. I don't know who that is, but we need to look at that in this committee and make sure that we are doing our responsibilities. Mr. Chairman, we need to ensure that somebody doesn't come back and say we didn't fund the right things at the right time.

Mr. TOBEY. We will try to get you an answer as to who has participated in that.

Mr. HOBSON. And I thank you for taking to heart some of the stuff that we have tried to do in the chairman's and my stewardship of these programs. As you can tell, we don't take this stuff lightly. I personally, and I believe the chairman does, think this is an area that is very important to the security of this country and of our children and grandchildren.

Mr. TOBEY. I try to use hearings as an opportunity to listen.

Mr. HOBSON. Thank you. Appreciate it. And, I hope, respond.

Mr. TOBEY. Certainly.

Mr. HOBSON. If we could get your lawyers to do that, we would be a lot better off.

Mr. VISCLOSKY. You knew he was going to go there.

And just backing up, when you get back to us on the reactors in Russia, I guess, as far as a shutdown, I attach, for my purposes, the word "irreversible."

And we will just have two more questions, and then I think we will be done.

DOE has been criticized by the Congressional Research Services for doing vulnerability assessments in Russia from drawings and photographs rather than site visits. Is this a practice that is still in use?

Mr. TOBEY. No. And, in fact—well, let me say this. Do we use drawings and photographs only? No. We visit sites.

Mr. VISCLOSKY. Okay.

What are some of the metrics used to determine if security at a given site is adequate? And would the definition of “adequate” be the same as you would use it for a facility in the United States?

Mr. TOBEY. It would certainly be based on the same standards, but our knowledge of—even though our knowledge is extensive of Russian facilities, it is not perfect and by no means equivalent to what we have here.

I guess that what I could say is that, I mean, when we think about nuclear material security, we have an internal list of over 400 questions, and we think about those sorts of things in assessing Russian facilities. I don’t know if that is responsive to your question. But we try and use the same objective standards. Our ability to do so is somewhat limited, because we don’t have the same access.

Mr. VISCLOSKY. I don’t have anything else.

Mr. Serrano, you don’t have anything? You are set.

So we will conclude. And I would echo Mr. Hobson’s words, is I do, myself, believe what you do is very important, and appreciate your efforts and your department’s efforts.

A lot of the questioning today and, as you know, a lot of our efforts for a year and more, with the initiatives taken when Mr. Hobson was chairman here, is to make sure that there is a clear line of demarcation as far as the nonproliferation program, so we can be focused and concentrated and hopefully do our very best. Which is why my colleague and I still share a great upset that, despite our best efforts last year and a lot of effort, I just think we are getting nicked and dined. And not necessarily—I am not suggesting by you, but we are getting nicked and dined here.

And the point of this was to be very focused on NN, to increase the funding and to make sure we can do the best job possible. So I hope you understand that is the whole point of today’s hearing, is to make sure those lines are as clean as possible.

Mr. TOBEY. I certainly understand that, sir.

I would note that I believe that a balanced nonproliferation effort must detect, secure and dispose of dangerous material.

Mr. VISCLOSKY. Thank you very much.

Mr. TOBEY. Thank you, sir.

[Questions and Answers for the record follow:]

EXECUTION OF FY2008 CONGRESSIONAL DIRECTION

Chairman Visclosky. For the Nuclear Nonproliferation programs please provide this Subcommittee a detailed report documenting the execution status for all of the earmarked projects contained in the explanatory statement accompanying the Consolidated Appropriations Act for Fiscal Year 2008.

Mr. Tobey. The Office of Defense Nuclear Nonproliferation has four FY08 earmarks which are being handled by the Office of Nonproliferation Research and Development. All funds (less 1.6% rescission) have been sent from NNSA Headquarters to the NNSA Service Center for execution. The status of specific earmarks follows:

- \$7.5M Earmarks (all earmarks subject to 1.6% rescission)
 - \$3.0M George Mason University - awaiting technical and cost proposal input from GMU as requested during December 2007 on-site review, due 30 April 2008, not yet received. On 2 May 2008 extended due date to 19 May 2008.
 - \$1.5M New England Research - awaiting technical and cost proposal input from New England Research, formally requested on 19 March 2008, due mid-April, not yet received.
 - \$2.0M Texas A&M University - in contracts office, effective 1 May 2008, pre-award authorization drafted to allow TAMU to incur costs for later payment.
 - \$1.0M ODIS (Offshore Detection Integration System) - at NNSA Service Center, working sole source documentation for award.

Hearing Date: April 3, 2008/Question 1

NONPROLIFERATION AND VERIFICATION R&D

Chairman Visclosky. The FY 2008 omnibus provided a significant increase to nonproliferation and verification R&D. What is the status of the activities in this program? Please address specifically the additional funding to expand research for high-risk, high return nuclear detection capabilities; R&D in nuclear detection and material security and nuclear explosion monitoring.

Mr. Tobey. The additional one-year FY08 funds provided for Nonproliferation R&D allowed the program to recapitalize some aging equipment at the National Laboratories with cutting-edge upgrades (beyond that already planned); as well as, accelerate core programmatic work in Proliferation Detection and Nuclear Detonation Detection. Further, the funding provided increased resources for competitive funding of basic research at leading U.S. Universities. Specifically, the additional funds have been executed in the following manner:

- \$25.0M PNNL Area 300 (subject to 1% rescission) - funding for the NNSA portion of the Physical Sciences Facility construction, including completion of the Foundation/Steel contract
- \$20.5M - "an additional \$20.5M is provided for nuclear explosion monitoring" (subject to 1% rescission)
 - \$5M - Competitive research program "The Department is directed to conduct a competitive solicitation open to all federal and non-federal entities toward an integrated suite of research, technology development and demonstration areas including infrasound, hydro acoustics for ground based systems treaty monitoring activities. The competitive process should award not less than \$5M of the additional funding for nuclear explosion monitoring for research and development for ground-based treaty monitoring."
 - \$2.5M - Funding for national laboratory seismic calibrations of threat regions and radionuclide system activities
 - \$2.0M - Detonation forensics technology and related science base activities
 - \$11.0M - Develop technologies enabling size, weight, and power reductions of space-based nuclear detonation detection payloads to meet increasingly stringent restrictions from next generation satellite-host platforms
- \$20.0M - "for the implementation of a sustained research and development capability in nuclear detection and nuclear materials security" (subject to 1% rescission)
 - \$10.0M - Supplement Radiation Detection R&D
 - \$5.0M - Supplement Radiation Detection Advanced Materials R&D
 - \$5.0M - Expand Nuclear Material Security R&D (supporting nuclear safeguards and alternate radioactive source development)
- \$60.0M - "in proliferation detection to expand research in critical research and development for high-risk, high return nuclear detection capabilities" (subject to 1% rescission)

- \$5.0M - Small Business Innovation Research (SBIR) taxes on R&D funds
- \$1.0M - foreign nuclear weaponization detection R&D program and “Goals, Objectives, and Requirements” and technology road-mapping processes
- \$0.5M - Hf-178 Project Evaluation
- \$20M - University competitive basic research program
- \$9M - Testing and Evaluation, including upgrade of Nonproliferation Technical Evaluation Center (NPTEC) infrastructure at Nevada Test Site
- \$24.5M - accelerate FY08 projects; re-capitalization and equipment purchases at National Laboratories

\$7.5M Earmarks (subject to 1.6% rescission)

- \$3.0M George Mason University
- \$1.5M New England Research
- \$2.0M Texas A&M University
- \$1.0M ODIS (Offshore Detection Integration System)

Hearing Date: April 3, 2008/Question 2

NONPROLIFERATION AND VERIFICATION R&D

Chairman Visclosky. It is becoming increasingly important to be able to detect small nuclear explosions, and increasingly difficult to separate the signal from a possible small nuclear explosion from the hundreds of natural and manmade events, such as mine blasts, that occurs every day. Unfortunately, it seems that DOE is not very focused on developing new technologies, new instrumentation, and field trials that might address this problem. Can you explain why your recent Broad Agency Announcement, BAA09 for Nuclear Explosion Monitoring Research and Engineering, takes a fairly narrow view of this research challenge? Why isn't the Department being more inclusive in its search for new technologies and methodologies to meet these new challenges?

Mr. Tobey. The Broad Agency Announcement for Nuclear Explosion Monitoring Research and Engineering (BAA09) actually covers a very broad range of research in technologies and methodologies to meet new detection challenges for nuclear detonations. The Notice of Interest was publically released on February 11, 2008 and the solicitation was released without any modifications on March 20, 2008. Proposals from the research community are due on May 7, 2008.

The BAA09 solicits research in six technology areas; Radionuclide Studies, Regional Seismic Studies, Seismic Phenomenology, Seismic Methods, Infrasound Studies, and Hydroacoustic Studies. Thus, half of the BAA topics broadly focus on seismic technologies that could produce new understanding of the properties of small seismic events and their seismic waveforms at local and regional distances (up to 200 km and up to 2,000 km, respectively). Innovative methods of event detection at local distances, including yield estimates with low uncertainty, are of particular interest to us. In addition, we are also interested in developing new methods that incorporate a firm physical and statistical basis for discriminating explosions from earthquakes, as well as methods that can discriminate chemical from nuclear explosions. Radionuclide Studies, Infrasound Studies, and Hydroacoustic Studies round out the Ground Nuclear Detonation Detection program and complement the Space Nuclear Detonation Detection program for detecting and distinguishing nuclear detonations separate from other types of explosions or earthquakes.

NNSA agrees that "it is increasingly important to be able to detect small nuclear explosions, and increasingly difficult to separate the signal from a possible small nuclear explosion from the hundreds of natural and manmade events, such as mine blasts." This is precisely the focus of the BAA. About a hundred proposals were received last year in response to BAA08, which had a similar focus, of which approximately a third were merit reviewed as "very good." Within available funding, roughly half of the "very good" BAA08 proposals are in contract negotiation at this time.

In addition to this BAA, the NNSA also actively seeks research to address seismic instrumentation and technology through the Small Business Innovative Research (SBIR) process.

Hearing Date: April 3, 2008/Question 3

NONPROLIFERATION AND VERIFICATION R&D

Chairman Visclosky. Last year we gave you quite a large increase in funding for Operations and Maintenance under Nonproliferation and Verification Research and Development: up from \$257M in FY 07 to \$362M in FY08. Now you're proposing to go back down to \$261M. Tell us what we got for the bump-up, and why you're not proposing to continue it.

Mr. Tobey. The \$261M FY09 Presidential request for funding for the Nonproliferation Verification Research and Development program is adequate to meet the needs of the program. As shown in detail in the answer to Question 2, the significant one year funding increase given by the Congress did allow the program to recapitalize some aging equipment at the National Laboratories with cutting-edge upgrades (beyond those already planned) and to accelerate core programmatic work in Proliferation Detection and Nuclear Detonation Detection.

Hearing Date: April 3, 2008/Question 4

HOW TO MEASURE SUCCESS AT PROTECTING NUCLEAR MATERIALS

Chairman Visclosky. I understand that, if we measure the success of this program by the number of sites that have been given protection, the need for the program is winding down. But in 2006 the Administration changed its accounting method to measure success by percentage of facilities that have received upgrades, rather than by the percentage of materials captured by the upgrades. Why was the change in accounting method made?

Mr. Tobey. We were seeking to employ the most accurate and objective measure we could. The MPC&A Program has refined its performance metric to focus on buildings and sites secured, since the historical metric, which was focused solely on the amount of material secured, was not the most accurate measure of actual risk reduction. First, our estimates of total material stockpiles in Russia have always been highly uncertain. Second, it takes approximately the same amount of time and effort to secure one metric ton of nuclear material at a small facility as it does to secure ten metric tons in a larger facility. These smaller stockpiles can pose as great a risk as much larger ones – particularly considering that the quantity of concern regarding theft is tens of kilograms or less. In fact, smaller facilities tend to receive less revenue and are typically less secure than large defense-related sites – making them potentially more dangerous. Therefore, from a threat perspective, all buildings with significant quantities of weapons usable material present similar dangers, whether they hold one ton or ten tons. A metric based solely on the number of metric tons of nuclear material secured fails to capture this aspect of the threat. The best means for measuring progress is to track the completion of upgrades at these buildings. Matthew Bunn, at the Harvard Project for Managing the Atom, agrees:

“The best available measure – though still a rough one – of both the fraction of needed security upgrade work that has been finished, and of the fraction of the threat that has been reduced, is the fraction of buildings where weapons-usable nuclear material is located whose security has been upgraded. The fraction of buildings covered is a better measure than the fraction of material covered, as a building with ten tons of weapons usable material poses little more risk, and requires only modestly more work, than a building with one ton of material.”¹

Chairman Visclosky. Suppose we were to use the previous accounting method, which I would think is more valid. What percentage of weapons-grade materials have been captured by the upgrades?

Mr. Tobey. For the reasons listed above, we are not able to make a reliable estimate of that figure.

¹ Securing the Bomb 2007; Mathew Bunn; Project for Managing the Atom; Belfer Center for Science and International Affairs; Harvard University September 2007.

VULNERABILITY ASSESSMENTS

Chairman Visclosky. More generally, DOE has been criticized by the Congressional Research Service for doing vulnerability assessments in Russia from drawings and photographs, rather than site visits. Is this practice still in use?

Mr. Tobey. DOE has always based vulnerability assessments of Russian facilities on observations made by technical team experts during site visits. These observations are augmented by discussions with Russian facility personnel and the judgment of DOE vulnerability assessment experts. Vulnerability assessments (also known as systems analyses) utilize a systematic process to evaluate risk levels for the theft of material by considering postulated insider and outsider theft scenarios and the effectiveness of security systems and security procedures (or lack thereof) in place to counter them. The analysis attempts to quantify an estimated probability that an MPC&A element performs as desired and identifies vulnerabilities in the MPC&A system. These assessments require technical teams to assemble information about the particular facility to be analyzed, such as exact facility layout, approximate delay times for an adversary to overcome obstacles, detection and assessment capabilities, approximate protective force response times, and degree of routine adherence to security procedures.

Hearing Date: April 3, 2008/Question 6

SECURITY METRICS

Chairman Visclosky. Of course, even site visits are no guarantee of valid assessments. Exactly what are the metrics you use to determine if security at a given site is adequate?

Mr. Tobey. The Material Protection Control and Accounting (MPC&A) Program applies a formula to develop quantitative assessments of risk. The formula is Risk = Frequency of Attack x Consequence of Loss x (1 - Probability of System Effectiveness). Each of these variables is represented by a value within a range from 0.0 (no probability) to 1.0 (certainty). The Frequency of Attack always equals 1.0 (for analysis we assume an attack will occur). Consequence of Loss (C) is a value placed on the relative lethality, portability, and/or nature of the nuclear target. For nuclear warheads, that value equals 1.0, the highest possible consequence value. "System Effectiveness" is a critical value that represents the relative capability of the physical protective system (PPS) to detect, assess, interrupt, and neutralize specified threats. As no systems are perfectly effective under all conditions the actual System Effectiveness (Probability of Effectiveness or PE) is assumed to be some value less than 1.0. (1- PE) describes the probability of system ineffectiveness. The conditional Risk formula is: $R = F \times C \times (1-PE)$, where:

R = Conditional Risk

F = Frequency of Attack (1.0)

C = Consequence of Loss

PE = Probability of (Physical Protective) System Effectiveness.

The MPC&A program determines appropriate upgrade strategies based on risk determinations and detailed security upgrade methodologies contained in the MPC&A Programmatic Criteria Document (updated in 2005) and the Sustainability Guidelines Document.

The National Nuclear Security Administration's (NNSA) Global Threat Reduction Initiative (GTRI) follows metrics reflected in its "Protection and Sustainability Criteria," which were published in November 2007 and provide a systematic method to prioritize projects, assign resources, and provide a graded, risk based approach to integrated protection of nuclear and other radioactive materials domestically and internationally. This GTRI approach is consistent with the International Atomic Energy Agency's (IAEA) Nuclear Security Guidelines, published in its Information Circular 225, Revision 4 (INFCIRC 225/Rev.4), and the IAEA's Code of Conduct on the Safety and Security of Radioactive Sources, in establishing and sustaining effective security over nuclear materials and facilities from theft or sabotage, and in identifying and securing high risk nuclear and other radioactive materials that could be used in a radiological dispersal device. Since 2002, GTRI has been working in close cooperation with the IAEA to assist other countries in implementing effective regulatory control and physical protection over nuclear materials and other radioactive materials of terrorist concern.

Chairman Visclosky. What is your definition of adequate security? Is it the same as we would apply to a site in the United States?

Mr. Tobey. The baseline for “adequate security” consists of international standards and commitments as outlined in IAEA Information Circular 225/Revision 4 for nuclear materials and facilities, the Convention on the Physical Protection of Nuclear Material, and the IAEA Code of Conduct on the Safety and Security of Radioactive Sources. However, we also conduct vulnerability assessments and site visits, employing our own methodologies and standards, to ensure adequate security specific to the needs of the particular facility in question.

For example, in our efforts to ensure adequate security at nuclear and radiological sites, GTRI considers several factors, including material attractiveness, specific country threat levels, the design basis threat (DBT) within each country, and the proximity of the material or facility to strategic assets. As part of the program, GTRI also considers the long term sustainability of security at each site. We also believe that comparable security is needed at U.S. sites that possess similar high risk nuclear and other radioactive materials.

For the MPC&A Program in Russia, these vulnerability assessments are made on a case-by-case basis by NNSA managers but the methods MPC&A experts use to estimate risk are consistent with methods used by DOE security experts in the United States. In Russia, risk evaluation data is not always complete, due to Russian security rules, and DOE must use expert judgment, including risk estimates, to fill gaps.

Hearing Date: April 3, 2008/Question 7

RED TEAM TESTING

Mr. Visclosky. We have run "Red Team" mock surprise attack exercises at our own nuclear installations. Sometimes the results have been unpleasantly surprising. Do the Russians run Red Team exercises at their own installations?

Mr. Tobey. Due to Russian security concerns, we have not engaged extensively on large-scale red team exercises at Russian nuclear facilities. DOE teams have witnessed limited-scope performance tests prior to full acceptance of upgraded systems, as well as during sustainability visits. We have anecdotal evidence that the most extensive performance tests are only performed occasionally, as is the case in the United States, because these exercises are very expensive, and potentially dangerous. DOE representatives have occasionally (but infrequently) been invited to witness these exercises. DOE funded a multi-agency transportation security exercise in 2004. The Russian press has also described multi-agency exercises at nuclear facilities.

Mr. Visclosky. What reason do, or would, we have for confidence in the fidelity of these exercises?

Mr. Tobey. We are not aware of the detailed methods used or results of the majority of these exercises because the Russians consider this sensitive information, which is also the case for U.S. red team exercises.

Hearing Date: April 3, 2008/Question 8

UNCOSTED UNOBLIGATED BALANCES

Chairman Visclosky. Defense Nuclear Nonproliferation programs regularly end the fiscal year with significant uncosted unobligated balances. Programs have attributed these balances to, among other things, the difficulty in costing funds efficiently overseas, particularly in the former Soviet states. For this reason, Congress asked Defense Nuclear Nonproliferation programs to report semi-annually on the amount of their uncosted obligations that are committed to a contract. Those uncosted funds that are uncommitted at the end of a fiscal year require justification.

Several Defense Nuclear Nonproliferation program accounts ended fiscal year 2007 with significant uncosted uncommitted balances. Because the Congress has not received the above referenced report, the Congress has not received justifications for these balances. For the following programs, please provide justifications for your uncosted uncommitted balances:

- Nonproliferation and Verification Research and Development
- Nonproliferation and International Security
- Global Initiatives for Proliferation Prevention
- International Nuclear Materials Protection & Cooperation
- U.S. Surplus Fissile Materials Disposition (exclusive of construction funds)
- Global Threat Reduction Initiative

Mr. Tobey. A detailed accounting of this information can be found in the "FY 2007 Year-End Financial Report for Defense Nuclear Nonproliferation (DNN)" dated April 1, 2008.

Hearing Date: April 3, 2008/Question 9



Department of Energy
National Nuclear Security Administration
 Washington, DC 20585

April 1, 2008

OFFICE OF THE ADMINISTRATOR

The Honorable Carl Levin
 Chairman
 Committee on Armed Services
 United States Senate
 Washington, D.C. 20510-6050

Dear Mr. Chairman:

Pursuant to Section 3121 of the National Defense Authorization Act of 2004, Public Law 108-136, enclosed is the semi-annual financial report on the Defense Nuclear Nonproliferation (DNN) appropriation of the National Nuclear Security Administration for the second half of FY 2007, ending September 30, 2007. The focus of this report is to explain the end-of-year uncosted obligation levels for programs through the analysis of financial commitments.

Much of the DNN program activity takes place outside of the United States, and encompasses smaller operating and capital-type projects executed in partnerships with foreign governments that are not completed for a number of years. As such, uncosted balance levels for these programs often exceed the Department's "uncosted balances" threshold. This metric is designed to indicate the expected level of goods and services on order needed for continuing operations of Department of Energy (DOE) program activities through Management and Operating contractors. Evaluating the programs on the basis of this metric alone gives an impression of excess balances in DNN program execution that is unwarranted. In recognition of this, we are submitting an analysis of contract commitments, or encumbrances, to better indicate the level of funds utilization and program activity.

This semi-annual report reflects accounting data through September 30, 2007, and is provided in the same tabular format as the FY 2006 report. At end of year, costs plus "commitments" are 87 percent of total costing authority, equal to the FY 2006 end of year report.

Nonproliferation objectives are being met, and program milestones are being achieved according to contract specifications. We continue to seek all avenues to reduce the threat of proliferation of weapons of mass destruction as quickly as possible.




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If you have any questions or need additional information, please contact Mr. David Campbell, Director, Office of Congressional, Intergovernmental and Public Affairs at (202) 586-7332, or Mr. Michael Kane, Associate Administrator for Management and Administration at (202) 586-5753.

Sincerely,


Thomas P. D'Agostino
Administrator

Enclosures

cc: The Honorable John M. McCain
Ranking Member



Department of Energy
National Nuclear Security Administration
 Washington, DC 20585

April 1, 2008

OFFICE OF THE ADMINISTRATOR

The Honorable Byron L. Dorgan
 Chairman, Subcommittee on Energy
 and Water Development
 Committee on Appropriations
 United States Senate
 Washington, D.C. 20510-6050

Dear Mr. Chairman:

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Sincerely,

A handwritten signature in black ink, appearing to read "T. P. D'Agostino". The signature is stylized with a large, looped initial "T" and a cursive "P".

Thomas P. D'Agostino
Administrator

Enclosures

cc: The Honorable Pete V. Domenici
Ranking Member



Department of Energy
National Nuclear Security Administration
Washington, DC 20585

April 1, 2008

OFFICE OF THE ADMINISTRATOR

The Honorable Ike Skelton
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, D.C. 20515-6015

Dear Mr. Chairman:

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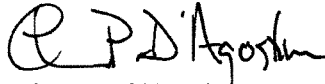
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Thomas P. D'Agostino,
Administrator

Enclosures

cc: The Honorable Duncan L. Hunter
Ranking Member



Department of Energy
National Nuclear Security Administration
 Washington, DC 20585

April 1, 2008

OFFICE OF THE ADMINISTRATOR

The Honorable Peter J. Visclosky
 Chairman
 Subcommittee on Energy
 and Water Development, and Related Agencies
 Committee on Appropriations
 U.S. House of Representatives
 Washington, D.C. 20515-6015

Dear Mr. Chairman:

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Thomas P. D'Agostino
Administrator

Enclosures

cc: The Honorable David L. Hobson
Ranking Member

**Semi-annual Financial Report on Defense Nuclear Nonproliferation Programs
FY 2007
September 30, 2007**

Background:

Pursuant to Section 3121 of the National Defense Authorization Act of 2004, Public Law 108-136, this is the semi-annual (end of year) financial report on the Defense Nuclear Nonproliferation (DNN) Programs of the National Nuclear Security Administration (NNSA) for the second half of FY 2007, ending September 30, 2007.

Data Reporting:

As required, the tabular information in this report provides amounts available for the DNN programs including beginning unobligated and uncosted balances; new funding made available by appropriations, reprogrammings, and other means; and ending uncommitted, unobligated, and unexpended balances, as reported in the Department of Energy's (DOE) Standard Accounting and Reporting System (STARS). To ensure consistent reporting, the report uses a definition for operating commitments at the Management and Operating (M&O) contractors consistent with generally accepted accounting principles. The definitions used for this report are included herein.

Financial Data:

Enclosure 2 provides year-end financial data in four tables: Obligation Status, Cost Status, Commitment Status, and Cost Plus Commitment Status. Each of these tables provides Operations and Maintenance (O&M) and Construction funding by program element. The report is presented in the structure of the FY 2007 Operating Plan.

Discussion:

As a result of several Government Accountability Office (GAO) reports and continuing Congressional interest in uncosted balances, DOE developed percentage threshold levels of uncosted balances for O&M funds, consistent with sound financial management for specific types of financial/contractual arrangements. A threshold is an analytical reference point (i.e., specific dollar value or percentage of a cost category or obligational availability) beyond which uncosted obligated balances should be given greater scrutiny. Thresholds are defined as a percentage of Total Funds Available to Cost (TAC), which include the Current Year Beginning Uncosted Obligations plus Current Year Obligations.

There are thresholds established for the individual components of O&M funding and other contractual vehicles. These thresholds are:

Operating Costs at Major Operating Contractors (MOCs)	13%
Operating Costs not related to MOCs	17%
Capital Equipment and General Plant Projects	50%
Grants, CRADAs, and other Cooperative Agreements	No specific threshold; evaluate on case-by-case basis

Looking at costs alone, the uncostered balances for many of the DNN programs exceed these thresholds because of the costing patterns for the significant amount of DNN work conducted in foreign countries, including the Russian Federation and the Newly Independent States. Although most of this work is handled through M&O contractors, business transactions with these countries, including contract negotiations and contractual agreements, and the subsequent accounting of these transactions do not follow the normal obligation and costing patterns for funds expended for activities conducted on-site by M&O contractors. The Office of DNN reports that contract negotiations with a foreign entity for a Basic Ordering Agreement or a General Ordering Agreement may take from two to eighteen months to complete, with the Individual Work Orders taking another three to six months to implement. Although funds are obligated up front on the M&O contract handling the negotiations with the foreign entity, costs are not reported until the work has been completed. Depending on the foreign government reviews, site access agreements, export controls, learning curve required to conduct the work, and rework of unacceptable deliverables, the costs associated with these obligations may not be reported for three to 24 months after the Individual Work Orders are placed. This unique situation does result in higher uncostered balances than many of the other NNSA programs whose business is conducted primarily within the United States. Therefore, in addition to cost data, commitments should also be considered when reviewing the financial status of these programs.

Program Information:

The following provides additional information on the nature of commitments for programs funded by DNN:

Nonproliferation and Verification Research and Development (operating dollars)

As of the end of FY 2007, 100 percent of obligational authority and 90.1 percent of costing authority were costed/committed, bringing end of year uncommitted obligations within the DOE threshold levels of uncostered balances.

Nonproliferation and Verification Research and Development (construction dollars)

Project 06-D-180, Project Engineering and Design, (PED) National Security Laboratory, Pacific Northwest National Laboratory (PNNL)

As of end of year, 100 percent of FY 2007 funds were obligated and 79.1 percent costed/committed. We expect all remaining uncosted/uncommitted PED funds to be costed in early FY 2008.

Project 07-SC05, Physical Sciences Facility at PNNL

As of end of year, 100 percent of FY 2007 funds were obligated, but none of these funds were costed/committed. The NNSA construction funds are being used to support the award of the steel and foundation subcontract. That subcontract was awarded for ~\$14M in November, committing all of the NNSA construction funds provided to date (\$4.2M). CD-3b approval is expected in April 2008 at which time construction funds can be costed.

Elimination of Weapons Grade Plutonium Production (EWGPP)

As of end of FY 2007, 99.9 percent of obligational authority has been obligated and 99.8 percent of costing authority has been costed/committed. End of year uncommitted obligations are within the DOE threshold levels of uncosted balances (as was the case at the end of FY 2006).

Planned cash flow for both the Seversk and Zheleznogorsk projects was based on planned construction for FY 2007. Based on that plan, most funds have been committed by the year end. United States funds must be committed to fixed-price contracts, as the Russians have no working capital for these projects. However, contract funds are not paid until the EWGPP program verifies the costs involved.

Nonproliferation and International Security (NIS)

At end of year, 99.1 percent of obligational authority has been obligated and 77 percent of costing authority has been costed/committed. Several programs within NIS accelerated their obligation of funds in the second half of FY 2007. The Warhead Dismantlement and Fissile Material program initially experienced delays in program work due to an expired Warhead Safety and Security Exchange (WSSX) agreement, but increased its costs/commitments in the second half of the fiscal year once Rosatom provided deliverables and redirected funds to projects with an increased scope. The Nuclear Noncompliance Verification program expedited a number of projects due to increased emphasis on countries of proliferation concern. Export Control assistance to foreign governments and industries accelerated to ensure compliance with international obligations and assistance to the International Atomic Energy Agency (IAEA). The Global Initiatives for Proliferation Prevention program reduced uncosted balances by 50.8 percent during FY 2007 and anticipates obligating and costing funds at a higher than normal rate due to implementing a new, streamlined project management process and expediting the completion of several projects.

International Nuclear Materials Protection and Cooperation (INMP&C)

As of end of year, 99.9 percent of obligational authority has been obligated and 85.4 percent of costing authority has been costed/committed.

In FY 2007, the program expanded its Second Line of Defense (SLD) program activities to include work in the following countries: Russia, Ukraine, Kazakhstan, Republic of Georgia, Azerbaijan, Armenia, Slovenia and Slovakia. SLD Megaports Initiative activities are ongoing in over 20 countries including Belgium, Panama, Columbia, Dominican Republic, China, Dubai, United Kingdom, Israel, Mexico, South Korea, Honduras, Pakistan and Taiwan. These activities include the installation of radiation detection capability at land and border crossings and seaports to detect, deter and interdict the illicit trafficking of nuclear and other radioactive materials along with training of host government custom officials in the use of the equipment.

With regard to Core INMP&C activities, large commitments were completed for ongoing contracts for: MPC&A upgrades at 9 Russian 12th Main Directorate sites; completion of Material Protection Control and Accounting (MPC&A) upgrades at 14 Russian Strategic Rocket Forces sites; upgrades to Russian Rosatom Weapons sites including Arzamas-16, Chelyabinsk-70, Mayak, Toms-7 and Krasnoyarsk-26; upgrades to civilian sites including Elektrostal and Bohvar and Afrikantov Experimental Machine Building Design Bureau (OKBM); MPC&A upgrades to one country outside the Former Soviet Union (FSU); and Transportation security upgrades to Rosatom sites for the protection of personnel and weapons usable material.

Fissile Materials Disposition (FMD) (operating dollars)**Fissile Materials Disposition****U.S. Surplus Fissile Materials Disposition (operating dollars)**

As of end of year, 99.9 percent of obligational authority has been obligated and 82.5 percent of costing authority has been costed/committed. These funds support O&M activities related to the Mixed Oxide (MOX) Fuel Fabrication Facility (FFF) Project and the Pit Disassembly and Conversion Facility Project which were slowed due to the legislative restriction included in the Revised Continuing Appropriations Resolution, 2007, on obligating construction funding for MOX prior to August 1, 2007. These funds also support other MOX fuel program activities, U.S. highly enriched uranium disposition activities, and other U.S. Surplus Fissile Materials Disposition program efforts.

Russian Surplus Fissile Materials Disposition

As of end of year, 24.8 percent of obligational authority has been obligated and 43.2 percent of costing authority has been costed/committed. Russia has indicated that it remains committed to plutonium disposition and has presented DOE with a technically and financially credible path forward that focuses primarily on irradiating MOX fuel in fast reactors. In November 2007, the U.S. Secretary of Energy and the Russian Federal Atomic Energy Agency Director signed a joint statement outlining a plan to dispose of 34 metric tons of surplus plutonium from Russia's

weapons program. Under the new plan, the United States will cooperate with Russia to convert Russian weapon-grade plutonium into mixed oxide fuel (MOX) and irradiate the MOX fuel in the BN-600 fast reactor, currently operating at the Beloyarsk nuclear power plant, and in the BN-800 fast reactor, currently under construction at the same site. The United States and Russia also intend to continue cooperation on the development of an advanced gas-cooled, high-temperature reactor, which may create additional possibilities for disposition of Russia's plutonium.

Russia intends to implement this program, with the U.S. contributing \$400 million, as previously pledged for cooperation under the 2000 Plutonium Management and Disposition Agreement and subject to appropriations by the U.S. Congress.

The Russian program has not requested any new budget authority in recent years, and intends to use its unobligated balances to fund limited ongoing technical work and negotiations with Russia. Note that this report excludes \$151 million in unallotted funding for Russian surplus fissile materials disposition that remained unobligated at the end of FY 2007. This funding was subsequently rescinded in the FY 2008 Consolidated Appropriations Act.

U.S. Surplus Fissile Materials Disposition (construction dollars)

As of end of year, 57.5 percent of obligational authority has been obligated and 94.5 percent of costing authority has been costed/committed. Obligation of funds has been slowed due to the legislative restriction included in the Revised Continuing Appropriations Resolution, 2007, on obligating construction funding prior to August 1, 2007. The remaining unobligated funds are for the MOX construction project. DOE expects to obligate these funds in FY 2008 to maintain the validated cost and schedule baseline for the MOX project.

Global Threat Reduction Initiative (GTRI)

As of end of year, 99.9 percent of obligational authority has been obligated and 88.4 percent of costing authority has been costed/committed. In FY 2007, the program continued to accelerate and expand threat reduction work. The program completed the conversion or shutdown of an additional 8 research reactors (for a cumulative total of 55 research reactors) from use of HEU fuel to LEU fuel; removed an additional 425 kilograms of HEU and plutonium (for a cumulative total of 1,791 kilograms removed) from Russian-origin and US-origin sources; removed an additional 1,625 domestic radiological sources (for a cumulative total of more than 15,500 excess radiological sources in the United States); and, completed protection efforts at an additional 99 vulnerable sites worldwide (for a cumulative total of 600 radiological sites protected).

Large commitments were completed during the year for the cask procurements to support the BN-350 reactor protection efforts and several Russian-origin nuclear material removal efforts worldwide, including funding to support shipments from Vietnam, Kazakhstan, and the Czech Republic.

Definitions

Unobligated Carryover = unobligated funds from the previous fiscal year carried over into the current fiscal year.

Adjusted New Obligation Authority = new budget authority provided in the current fiscal year adjusted for actions such as supplemental appropriations, reprogrammings, use of prior year balances, rescissions, etc.

Obligational Authority = the sum of Unobligated Carryover and Adjusted New Obligation Authority. It includes all obligational authority, both allotted and unallotted (i.e., funds that may be held in DOE Reserve account and not currently available for obligation).

Obligational Authority Allotted = the Total Obligational Authority allotted and available to obligate in the current fiscal year. (Does not include funding held in DOE Reserve for proposed reprogrammings or other purposes).

Obligations = actual obligations incurred year to date [contracts awarded/modified by DOE].

Unobligated = amounts not yet obligated.

Beginning Uncosted Obligations = obligated amounts that were uncosted at the end of the previous fiscal year and were carried into the new fiscal year.

Costing Authority = Beginning Uncosted Obligations + Year To Date obligations.

Costs = actual costs incurred year to date [receipt of goods and services].

Uncosted Obligations = obligated amounts which have not been costed [Goods and Services on Order].

Commitments = Outstanding Contractor Encumbrances by the M&O contractors plus the full amount of Uncosted Obligations for direct contracts awarded to non-M&O contractors.

Outstanding Contractor Encumbrances represent uncosted balances under contracts awarded by the integrated M&O contractor and uncosted balances related to other integrated M&O contractor liabilities. Encumbrances consist of uncosted balances of (1) purchase orders issued; (2) contracts and subcontracts awarded including the full liability under lease purchase and capital leases; (3) termination costs for incrementally funded firm fixed price contracts, operating lease agreements, and multi-year service contracts that contain termination clauses; and (4) other agreements for the acquisition of goods and services not yet received and uncosted balances related to other integrated M&O contractor liabilities. Encumbrances include uncosted balances of work orders or authorizations issued to integrated M&O construction contractors provided such work is specific in scope and has clear milestones or tangible deliverables.

NOTE: Commitments are, in effect, an understatement of anticipated future costs. The commitment amounts reported by the M&O contractors do not include any overhead amounts that would eventually be applied when the costs are reported. Thus the actual costs for these planned activities will be higher than the commitment amounts.

Committed Uncosted Obligations = essentially subcontracts awarded by integrated M&O contractors plus uncosted balances on direct awarded contracts to other than integrated M&O contractors.

Table 1 -- Obligation Status

- * Includes HEU Transparency Implementation, Global Initiatives for Proliferation Prevention, and Accelerated Highly Enriched Uranium Disposition

- * Includes HEU Transparency Implementation, Global Initiatives for Proliferation Prevention, and Accelerated Highly Enriched Uranium Disposition

Tabel 2 -- Cost Status

- Includes HEU Transparency Implementation, Global Initiatives for Proliferation Prevention, and Accelerated Highly Enriched Uranium Disposition

- Includes HEU Transparency Implementation, Global Initiatives for Proliferation Prevention, and Accelerated Highly Enriched Uranium Disposition

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Whole Dollars -- As of September 2007

Table 3 -- Commitment Status		A	B	C	D	E
Expense Type	Program Construction Project Title	YTD Ending Unobligated Obligations	Unobligated Obligations	% Committed	Total Unobligated Obligations	% Uncommitted
Operating	Nonproliferation and Verification Research and Development	65,672,053	31,716,656	48.3%	33,955,397	51.7%
	Elimination of Weapons Grade Plutonium Production	199,658,029	198,881,696	99.6%	776,334	0.4%
	International Nuclear Materials Protection and Cooperation	608,212,343	458,896,455	75.4%	149,315,887	24.6%
	U.S. Surplus Fissile Materials Disposition	104,192,576	55,794,537	53.5%	48,398,039	46.5%
	Russian Surplus Fissile Materials Disposition	77,892,168	28,383,989	36.4%	49,508,179	63.6%
	Global Threat Reduction Initiative	1,242,402,700	864,312,831	71.2%	358,089,870	28.8%
	Operating Total					
Construction	Nonproliferation and Verification Research and Development	0	0	0.0%	0	0.0%
	06010000, PEP, National Security Laboratory, PNNL	3,435,864	127,800	3.7%	3,307,934	96.3%
	U.S. Surplus Fissile Materials Disposition	4,220,000	0	0.0%	4,220,000	100.0%
	99010100, PHT Disassembly And Conversion Facility, Savannah River, SC	23,156,578	19,566,695	84.5%	3,589,882	15.5%
	99010100, Waste Solidification Building, Savannah River, SC	5,308,301	71,413	1.3%	5,236,888	98.7%
	99010100, Mixed Oxide Fuel Fabrication Facility, Savannah River, SC	331,573,650	309,319,300	93.3%	22,254,350	6.7%
	U.S. Surplus Fissile Materials Disposition	387,695,133	339,085,342	89.5%	38,609,791	10.5%
	01040200, Highly Enriched Uranium (HEU) Blended Down, Savannah River, SC					
	Construction Total					
Grand Total		1,610,997,833	1,213,398,173	75.3%	396,599,660	24.6%

* Includes HEU Transparency Implementation, Global Initiatives for Proliferation Prevention, and Accelerated Highly Enriched Uranium Disposition

Table 4 -- Cost + Commitment Status		A	B	C	D	E	F	G
Expense Type	Program Construction Project Title	Costing Available (Obligated Funds)	YTD Cost	Total Unobligated Obligations	Current Costs + Commitments	% Current Costs + Commitments	Total Unobligated Obligations	% Uncommitted
Operating	Nonproliferation and Verification Research and Development	341,613,261	275,941,208	31,216,456	307,657,664	90.1%	33,955,397	9.9%
	Elimination of Weapons Grade Plutonium Production	424,431,947	224,773,518	198,661,696	423,655,613	99.8%	776,334	0.2%
	Nonproliferation and International Security +	240,678,401	153,383,642	31,900,377	185,286,019	77.0%	55,414,382	23.0%
	International Nuclear Materials Protection and Cooperation	1,276,537,793	416,325,600	55,895,506	375,127,106	85.4%	149,405,887	14.6%
	U.S. Surplus Fissile Materials Disposition	40,000,000	17,000,000	23,000,000	23,000,000	57.5%	17,000,000	42.5%
	Russian Surplus Fissile Materials Disposition	87,230,674	9,338,566	28,383,989	37,722,935	43.2%	49,508,179	56.8%
	Global Threat Reduction Initiative	177,240,914	77,780,142	78,862,300	156,642,442	88.4%	20,597,472	11.6%
	Operating Total	2,572,655,259	1,330,255,559	884,312,831	2,215,568,599	86.1%	358,089,870	13.9%
Construction	Nonproliferation and Verification Research and Development	0	0	0	0	0.0%	0	0.0%
	06010000, PEP, National Security Laboratory, PNNL	15,828,633	12,392,268	127,800	12,520,098	79.1%	3,307,934	20.9%
	U.S. Surplus Fissile Materials Disposition	4,220,000	0	0	0	0.0%	4,220,000	100.0%
	99010100, PHT Disassembly And Conversion Facility, Savannah River, SC	42,788,176	19,631,299	19,566,696	39,197,994	91.6%	3,589,882	8.4%
	99010100, Waste Solidification Building, Savannah River, SC	35,492,931	10,194,300	71,413	10,266,043	64.2%	22,254,350	35.8%
	99010100, Mixed Oxide Fuel Fabrication Facility, Savannah River, SC	598,981,106	177,407,638	309,319,303	486,726,941	95.6%	22,254,155	4.4%
	01040200, Highly Enriched Uranium (HEU) Blended Down, Savannah River, SC	587,321,757	219,636,634	339,085,342	548,711,975	93.4%	931	0.0%
	Construction Total							
Grand Total		3,159,980,026	1,549,882,193	1,213,398,173	2,763,280,366	87.4%	396,699,660	12.6%

* Includes HEU Transparency Implementation, Global Initiatives for Proliferation Prevention, and Accelerated Highly Enriched Uranium Disposition

MATERIAL PROTECTION, CONTROL AND ACCOUNTABILITY

Mr. Visclosky. The US and Russia recently signed a Joint Action Plan for Cooperation on Security Upgrades at Russian Facilities, which addresses some of the issues GAO raised in its February 2007 report (GAO-07-404). In that regard, does this plan have detailed financial guarantees from the Russian government that would reassure the Congress that Russia will live up to its responsibility to maintain and sustain these security upgrades once U.S. funding for this activity diminishes as is planned?

Mr. Tobey. No, the Joint Action Plan does not contain Russian financial guarantees. The U.S.-Russia MPC&A Cooperation Joint Action Plan addresses the agreed scope of MPC&A cooperation in the interest of ensuring that resources are being focused on the highest priority areas for both sides. This plan identifies specific buildings, within specific Rosatom sites, that are to receive MPC&A upgrades and includes information on cooperative efforts to improve the Russian national infrastructure related to nuclear material security. The plan asserts that each site will enter into a transition period after the completion of comprehensive upgrades that will end when the U.S. side discontinues financial support. However, the Joint Action Plan does not include estimates of the funds required for sustainability or those necessary to ensure a successful site-level transition.

DOE and Rosatom are developing a joint transition plan as a corollary to the Joint Action Plan, with the intent of identifying the specific activities that will be pursued between 2009 and 2012 to sustain MPC&A upgrades and to improve individual site or project sustainability capabilities, infrastructures, and practices. The plan assigns U.S., Russian, or shared financial responsibility for each activity as negotiated at the site or project level. A draft of this plan will be completed before the end of 2008. The plan is unlikely to include a Russian guarantee to commit specific monetary figures, but will include a commitment to assume responsibility for the activities needed to sustain the security upgrades.

Hearing Date: April 3, 2008/Question 11

MEGAPORTS AND 100% SCREENING

Chairman Visclosky. Mr. Tobey, please explain to the Committee how you prioritize Megaports projects. These projects should theoretically provide the highest priority to those ports which present the greatest threat to U.S. safety and security.

Mr. Tobey. Working closely with experts at our national laboratories, we have developed a Maritime Prioritization Model (MPM) to assist in the evaluation of candidate ports. The MPM is a tool used to assess the global nuclear material smuggling threat and identify ports of interest based on three major components – shipping information, country security, and port security. Shipping information includes, among other factors, the types of vessels using a port, the flag flown by those vessels, where the vessels came from, and their destination. The MPM output is combined with other considerations, such as the political stability and security situation within the potential partner country, the scannable volume in the port, and the country's willingness to cooperate with us, to generate a list of priority ports for potential Megaports implementation. As a result, the Prioritization process takes into account geographic considerations associated with the most obvious proliferation threats. For example, North Korea has demonstrated a record of proliferating missile material and has a nuclear weapons program. Our prioritization process carefully considered North Korean ports and shipping destinations.

In developing our prioritization process, we took great care to ensure the reasonableness and validity of our approach. Before our initial deployment of the process, the methodology was carefully vetted by a select panel at the U.S. Merchant Marine Academy. The panel was composed of experts from the maritime shipping industry, intelligence agencies, and nuclear proliferation community. After incorporating the panel's input, the methodology was presented to a number of U.S. government agencies including the Office of Naval Intelligence, the U.S. Coast Guard, the State Department, and Customs and Border Protection. Input received from these organizations, as well as from allied-foreign security entities was also used to validate our process. Because of the dynamic nature of the nuclear smuggling threat, we continue to revisit and update our prioritization process to ensure that we are focused on the right ports. We incorporate new information on the security situation in foreign countries and their ports, changes in shipping patterns, and our better understanding of the nuclear smuggling threat. For example, we commissioned a RAND study on global nuclear smuggling that validated our approach and also assisted in updating our country scores.

Based on our current prioritization strategy, the Megaports Initiative has identified 75 ports of interest worldwide. This figure represents approximately 10% of the container ports shipping directly to the U.S. Additionally, based on the process described earlier, the Megaports Initiative does update its prioritization list periodically.

Chairman Visclosky. Which ports are you working with in FY08 and do you propose to work with in FY09?

Mr. Tobey. In FY08, the Megaports Initiative plans to complete work in the following locations: South Korea (Busan) - SFI, Oman (Salalah) - SFI, Dominican Republic (Caucedo), Colombia (Cartagena), Egypt (Alexandria), Belgium (Zeebrugge), Mexico (Veracruz), Israel (Haifa) and Panama (Balboa & Manzanillo).

In FY09, we anticipate that we will complete work in the following locations: Jamaica (Kingston), UAE (Dubai), China (Shanghai), Malaysia (Port Klang), Taiwan (Kaohsiung), Israel (Ashdod), Mexico (Manzanillo & Lazaro Cardenas), Spain (Valencia), and Oman (Sultan Qaboos).

Chairman Visclosky. Does this list include all the ports which pose the greatest threat to U.S. safety and security?

Mr. Tobey. As described above, one of the key determining factors of the Megaports prioritization strategy is threat or likelihood that nuclear material would transit through a port. We are focusing on completing work at the ports mentioned above and are actively engaging new countries with the goal of implementing Megaports at all of the countries on our current prioritization list. Another critical element, however, is the willingness on the part of the host government to cooperate with us in implementation and long term operation of the systems we provide.

Chairman Visclosky. Are there others that should be on this project list?

Mr. Tobey. The Megaports Initiative regularly reviews and updates its prioritization list to determine if ports should be added, removed or shifted in terms of priority. We also work closely with our counterparts at the Department of State to determine if particular countries are not eligible for engagement at a certain time because of political instability or lack of security within that country. Alternatively, we are responsive to requests from countries that have a strong commitment to port security and express a strong interest in joining the Megaports Initiative. For example, in a recent update to our modeling efforts, Djibouti was identified as a port of increasing priority. As a result, we initiated outreach efforts with their government and now anticipate cooperation with them on our Megaports Initiative.

Chairman Visclosky. If so, why are they not on your list? What are you doing to set up programs at these ports?

Mr. Tobey. There are currently no ports of strategic interest that are not on our prioritization list. As mentioned above, the Megaports Initiative does regularly update its port prioritization list and is actively engaging countries in every region of the world on joining the Megaports Initiative.

MEGAPORTS AND 100% SCREENING

Chairman Visclosky. Mr. Tobey, would you care to comment upon the readiness of ASP detection technology? Is it ready to be deployed?

Mr. Tobey. We are working closely with the Department of Homeland Security's Domestic Nuclear Detection Office (DNDO) to conduct tests for use in both primary and secondary scanning locations. To gather information on reliability under field conditions, NNSA has begun a pilot program to deploy Advanced Spectroscopic Portal (ASP) units to some of its Megaports for use in secondary screening. The Megaports Initiative has purchased 12 ASPs and intends to install them at secondary inspection locations at select Megaports. The first of these units has been installed at the Port of Southampton and is currently undergoing operational testing. The data that is gathered from operational deployments of ASP will be considered along with the results of performance evaluation and concept of operations testing at Los Alamos National Laboratory to determine the most appropriate secondary screening methods for a variety of operational scenarios (e.g., the maximum speed at which the container can pass through the portal monitors). DOE would then deploy the appropriate secondary screening technology based on the specific operational needs of the given port.

Chairman Visclosky. We understand that there is a difference of opinion between your organization and DNDO. What is the position of DNDO on the readiness of ASP technology?

Mr. Tobey. I defer to DNDO to elaborate on their views of the readiness of ASP technology. However, as discussed below, we are working very closely with DNDO to conduct a comprehensive set of tests to establish the effectiveness of the ASPs.

Chairman Visclosky. Why the difference of opinion?

Mr. Tobey. DOE and DNDO have a close working relationship. DOE is committed to working closely with DNDO to ensure that comprehensive testing of the ASP is completed. Specifically, we have participated in Technical Summits to establish the path forward for the ASP program, conducted a significant data collection effort at Los Alamos National Laboratory using special nuclear materials, provided technical experts to perform data analysis during the current data collection at the Nevada Test Site, and will continue providing input into future test plans and the injection studies. In addition, DOE has just completed a concept of operations testing at Los Alamos to support deployment of ASPs for use in the secondary inspection process at international seaports. This testing combined with the data we are receiving from our operational testing and evaluation of the ASP units we will have in the field will provide valuable technical and operational insight for future deployments. As we move forward with testing, it is our expectation that we will have a close and open relationship with our DHS counterparts.

MEGAPORTS AND 100% SCREENING

Chairman Visclosky. What will be the budgetary impact for the Megaports Initiative of the passage of H.R. 1 (9/11 Commission Recommendation Act), which required 100% screening of containers at foreign ports? Has NNSA adequately adjusted its FY2009 request as well as its future budget projections for the Megaports Initiative to address this legislation?

Mr. Tobey. Meeting the requirement of screening 100% of containers at foreign ports would require a significant increase in resources, both in terms of funding and personnel dedicated to the effort. Based on our current planning and budgeting, NNSA plans to complete 75 Megaports by 2013. Our conservative estimate is that we will be scanning approximately 50% of global shipping traffic once we have met this goal. With regard to the best approach for meeting the requirements of H.R. 1, we believe that scanning every U.S.-bound container at a foreign port before it arrives in the U.S. poses significant operational, technical, and diplomatic challenges. It is our position that we must continue to focus our resources on the areas where we believe we can have the greatest impact and that potentially pose the greatest risk to U.S. national security. NNSA will continue to promote the use of a risk-based approach to guide implementation priorities as we move ahead with any future implementation of the Megaports Initiative and/or the Secure Freight Initiative (SFI). This approach will allow us to utilize our resources and funding in the most effective way possible. NNSA plans to continue to work closely with host countries as well as the private sector to cost share where possible to accelerate scanning at foreign ports.

The largest single obstacle to achieving 100% scanning is the lack of technology to scan transshipped containers. Large seaports like Singapore transship most of their containers from one ship to another without leaving the port. There is no convenient way to scan these containers since they don't move through a traditional entrance gate and there is little or no space within the terminal to place scanning equipment. NNSA is working closely with industry and DHS to test new crane-mounted radiation detectors that would scan containers as they come off the ship or are repositioned in the container stacks.

MEGAPORTS AND 100% SCREENING

Chairman Visclosky. Congress just received the report on the Secure Freight Initiative, which raises a number of questions about the cost and technical feasibility of meeting the requirements of the SAFE Port Act of 2006 and the 9/11 Act. I understand that the NNSA had input to this report. Can you summarize your views on the secure Freight Initiative and whether the risks it would address are worth the costs this Initiative would require?

Mr. Tobey. Overall, NNSA agrees that the Secure Freight Initiative (SFI) pilot projects have demonstrated that 100% scanning of U.S.-bound containers is possible on a limited scale. However, as the SFI report highlights, several challenges to implementing 100% scanning of all U.S.-bound containers at overseas ports remain. Scanning U.S.-bound containers overseas is possible at some locations; however, as mentioned above, scanning every U.S.-bound container at a foreign port before it arrives in the United States presents significant operational, technical, and diplomatic challenges.

Despite these challenges, NNSA is pleased with the success to date at the three SFI pilot ports. Operationally, we have been able to demonstrate three different approaches to scanning 100% of the U.S.-bound containers at overseas ports that can be considered as we look to expand to additional ports. Also, our partnership with DHS on SFI implementation has been successful. We are committed to conducting joint outreach missions with DHS to engage new partners, exploring new technologies, and exploring new ways to maximize use of NNSA and DHS resources to work in those ports that we identify as posing a significant risk or threat to U.S. national security.

Hearing Date: April 3, 2008/Question 15

MEGAPORTS AND 100% SCREENING

Chairman Visclosky. How has NNSA integrated its efforts to encourage cost-sharing by other nations into its current and future budget requests for the Megaports Initiative?

Mr. Tobey. When possible, the Megaports Initiative cost shares with its foreign partners. Cost-sharing arrangements are site specific and are negotiated for each port. Although there is no set formula for cost-sharing, in some of the countries where we have employed cost-sharing, the terminal operator or port authority has paid for the cost of design, construction, engineering, and installation.

To date, we have cost shared for the installations in the operational ports in Honduras (Cortes) and Israel (Haifa). In FY08, cost-sharing is being implemented in Belgium (Zeebrugge), Columbia (Cartagena), Panama (Manzanillo), and Mexico (Veracruz). In FY08, we anticipate a cost-savings of approximately \$21M based on these cost-sharing arrangements. In FY09, we expect to save an additional \$28M based on planned cost-sharing endeavors with Israel (Ashdod), Mexico (Lazaro Cardenas and Manzanillo), Panama (Colon) and Spain (Valencia). The Megaports Initiative has incorporated cost-sharing as one of its performance measures and is aiming to have a certain number of cost-sharing ports per year. Cost-sharing is a high priority, and estimates on number of ports that will cost share have been and will continue to be incorporated into our budget planning and requests.

Hearing Date: April 3, 2008/Question 16

PAKISTAN

Chairman Visclosky. How much of the Nuclear Nonproliferation budget is directed toward activities in Pakistan, especially funding that would be directed toward nuclear security, radiological security, and border security in that country?

Mr. Tobey. With regards to Second Line of Defense (SLD) program, we have spent \$1,806,610, supporting the Secure Freight Initiative (SFI) work at Port Qasim. Our portion of that work included the provision of portal monitors, cameras, software and extensive training. Future work includes SFI upgrades at the Port of Karachi, as well as additional SLD work, once the Memorandum of Understanding has been signed.

The Office of Nonproliferation and International Security has spent approximately \$400,000 providing physical protection training. Future training courses are planned. In addition, the Office's International Nonproliferation Export Control Program (INECP) has spent approximately \$200,000 working with the Government of Pakistan for the past four years on enforcement and licensing training of strategic commodity transfers. INECP will spend another \$70,000 of State Department/EXBS funds in May 2008 for in-country enforcement training (WMD-Commodity Identification Training) for Pakistan Customs, Border Guard, and Rangers.

We can also provide a classified briefing with more information on this subject.

Chairman Visclosky. What is your assessment of the dedication and competence of the Pakistani military to safeguard their nuclear weapons?

Mr. Tobey. My understanding is that they have a very professional military, and I believe they are motivated to secure their own arsenal.

Hearing Date: April 3, 2008/Question 17

INDIA

Chairman Visclosky. Your statement describes a long and impressive list of accomplishments. I don't mean to minimize their significance. But in nuclear nonproliferation the dice are loaded against us. We can stop proliferators a thousand times, but if one proliferant terrorist acquires one weapon and explodes it in one city, the world will note the one nonproliferation failure more than the thousand successes. If we secure the 30 largest ports, we're sending a signal to terrorists to use port Number 31, and so forth.

I frequently wonder what we could do to decisively close off one particular vulnerability. For example, Secretary Rice recently said that if India does another nuclear test, the law would require us to take back whatever nuclear equipment and material we've given them. Do you agree with her on that?

Mr. Tobey. I agree that we should take a broad view of proliferation threats and responses, and our nonproliferation programs, with more than 100 partners worldwide, are designed to meet those threats and responses. With respect to India, I note that the proposed Agreement for Cooperation will foster improved nuclear security practices by making international safeguards and physical protection a condition of U.S. nuclear supply. In addition, if India were to detonate another nuclear explosive device, the United States would be able to exercise its right under Article 14 of the draft Agreement to cease all nuclear cooperation with India, including the supply of fuel, as well as to require the return of any nuclear items or materials transferred from the United States. These terms are consistent with the provisions of Section 123 of the Atomic Energy Act of 1954, as amended.

Hearing Date: April 3, 2008/Question 18

NORTH KOREA

Chairman Visclosky. Mr. Tobey, your FY2009 budget request includes no additional funding for disablement or other non-proliferation activities in North Korea. However, the Department is supporting special legislative authority in a different bill for this work.

Why are you pursuing this special authority in a non-DOE bill? Are you asking for this language in the upcoming supplemental?

Mr. Tobey. The U.S., along with its partners in the Six Party Talks (Japan, South Korea, China, and Russia) has been working with the North Korea (DPRK) to eliminate its nuclear programs. On September 19, 2005, the DPRK committed "to abandoning all nuclear weapons and existing nuclear programs" as part of the verifiable denuclearization of the Korean Peninsula. Since October 2007, DOE/NNSA is serving as the U.S. Government's technical lead for on-going disablement of the three critical nuclear facilities at the Yongbyon nuclear complex in the DPRK. These efforts are funded largely through the State Department's Nonproliferation and Disarmament Fund, which has authority to expend funds in North Korea notwithstanding the restrictions in Section 102 of the Arms Export Control Act (also known as the Glenn Amendment). The Department of Energy lacks such authority, and therefore will not be in a position to fund the next phase of denuclearization work in North Korea absent a change in law.

DOE/NNSA seeks authority to use current and future DOE/NNSA funds for denuclearization activities in the DPRK to include: disablement, dismantlement, and verification of nuclear facilities and materials, nuclear material packaging and removal, and other to-be-determined denuclearization projects. In December 2007, DOE proposed changes to existing legislation that will give DOE/NNSA the authority to expend funds to implement the USG's Six Party Talks commitments.

We have not requested funding of the full anticipated cost of disabling and dismantling North Korea's nuclear programs because Pyongyang has not yet agreed to such actions. Those costs would be substantial, potentially over \$360 million for disablement and dismantlement. Requesting such a large amount, when we could not be certain that we could spend them, did not appear to be prudent to us.

Chairman Visclosky. What would this authority allow NNSA to do that it can not currently?

Mr. Tobey. DOE/NNSA is currently prohibited from directly funding nonproliferation and nuclear security activities in the DPRK due to restrictions in Section 102 of the Arms Export Control Act (also known as the Glenn Amendment), which imposes sanctions against countries that have conducted nuclear weapons tests.

The legislative proposal submitted by DOE in December 2007 would permit DOE/NNSA to expend funds for disablement, dismantlement, and verification of nuclear

facilities and materials, nuclear material packaging and removal, and related denuclearization projects.

Chairman Visclosky. If you receive this authority, how much funding would you need to do the work you have planned for FY2008 and FY2009?

Mr. Tobey. DOE/NNSA estimates that it will need an additional \$51 M in FY 2008 and \$361 M in FY 2009 are needed to progress towards the elimination of DPRK nuclear programs. Additional work will likely be performed in 2010 as well, but we have not yet formulated an estimate.

Chairman Visclosky. If you do not receive this authority?

Mr. Tobey. In the absence of authority, a significant portion of DOE/NNSA work would need to be funded through the State Department's Nonproliferation and Disarmament Fund (NDF). The anticipated costs, however, are an order of magnitude more than NDF's or DOE's annual appropriation. In addition, funding this work through a separate agency would introduce delays and inefficiencies that would hamper the U.S. Government's ability to carry forward denuclearization in North Korea.

Chairman Visclosky. What is the Administration's supplemental request for any NNSA assistance to North Korea? What kind of assistance would the NNSA provide, and how much of the supplemental request would come to the NNSA?

Mr. Tobey. DOE/NNSA has not yet submitted a formal request for supplemental funding in either FY 2008 or FY 2009. However, DOE/NNSA estimates that it will need an additional \$51 M in FY 2008 and \$361 M in FY 2009. Both of these requests include disablement, dismantlement, and verification of nuclear facilities and materials, nuclear material packaging and removal, and other to-be-determined denuclearization projects. All of this funding would be provided to DOE/NNSA Office of Nonproliferation and International Security and the Office of Global Threat Reduction.

Hearing Date/Question Number(s): April 3, 2008/Question 19

NORTH KOREA

Chairman Visclosky. How much of the Nuclear Nonproliferation budget is designated in the request for activities relating to the disablement, dismantlement, and verification of nuclear activities in North Korea?

Mr. Tobey. The FY 2009 budget request includes \$2.0M for nuclear material packaging and removal activities (to the Office of Global Threat Reduction) and \$4.0 million for verification activities (to the Office of Nonproliferation and International Security).

Chairman Visclosky. Considering that negotiations with North Korea have reached an impasse and that further disablement, dismantlement, and verification activities in North Korea may not be implemented, can NNSA reduce its FY 2009 request for such activities?

Mr. Tobey. At this writing, the prospects for agreement on the next stage of denuclearization appear quite positive. Nevertheless, given the up and down history of nuclear negotiations with North Korea, the DOE/NNSA budget is quite conservative in FY 2009, totaling \$2 million for nuclear material packaging and \$6 million for verification support. These sums maintain a readiness profile consistent with the current state of diplomacy and, in our view, should not be further reduced. If agreement is reached on the next phase of denuclearization, then a very significant increase in funding will be required.

Hearing Date: April 2, 2008/Question 20

NEXT GENERATION SAFEGUARDS INITIATIVE

Chairman Visclosky. Please elaborate on the scope of activities and provide a more detailed rationale for the Next Generation Safeguards Initiative, especially the substantial finding increase (+\$12m) proposed for the initiative FY09.

Mr. Tobey. The United States has a major stake in the success of the international safeguards system administered by the International Atomic Energy Agency (IAEA). IAEA safeguards serve as the principal international mechanism available to monitor nuclear activities worldwide. They promote international confidence in peaceful uses of nuclear energy, deter and can provide early warning of incipient weapons programs, and provide the means for addressing compliance with safeguards agreements and implementing resolutions of the IAEA Board of Governors and UN Security Council.

Today, the international safeguards system is facing greater challenges than at any point in its history, due to expanding safeguards responsibilities, high-profile investigations in Iran and North Korea and of proliferation networks, and the evolution from strict material accounting to a state-level approach to the evaluation of safeguards compliance. Over the last 25 years, the number of safeguarded facilities has increased dramatically and the amount of highly enriched uranium (HEU) and separated plutonium under safeguards has increased by a factor of six. The number of states with Additional Protocols in force has grown to more than eighty. Against this backdrop, the IAEA regular safeguards budget has remained essentially flat in real terms for nearly two decades (the exception being a one-time increase adopted in 2003), large numbers of senior IAEA inspectors and other staff are approaching retirement, and U.S. investments in safeguards technology have not kept pace.

If current trends continue, strains on the system will inevitably worsen. The anticipated renaissance for nuclear power is expected to be significant given growing concerns surrounding fossil fuel dependency and global climate change. This expansion could entail many more states pursuing nuclear energy, with the deployment of new types of reactors and large-scale, complex facilities for fuel enrichment and fabrication, interim spent fuel storage, spent fuel processing, and long-term waste storage. Much of this growth could come in developing parts of the world at risk for terrorism and proliferation.

As nuclear energy expands, proliferation challenges will continue to evolve. In particular, countries may exploit renewed interest in peaceful nuclear energy to justify pursuit of uranium enrichment or reprocessing capabilities for undeclared military programs or as a latent capability to “break out” and produce nuclear weapons if the security environment erodes. Further, the AQ Khan experience demonstrates that not just technology holders but virtually any state can be exploited by clandestine proliferation networks to acquire and transfer sensitive nuclear equipment and technology.

In FY 2007, the Office of Nonproliferation and International Security undertook a fundamental review of international safeguards requirements in light of the above

challenges. This review found a clear need for a more robust, long-term program to strengthen international safeguards. The review also found that U.S. technical leadership is at risk due to thinning capabilities in our national labs, where retirements, declining budgets, and the lure of other national security missions have eroded our safeguards technical base. Based on these findings, in September 2007, the Secretary of Energy announced at the IAEA General Conference that DOE would launch a Next Generation Safeguards program for the purpose of strengthening IAEA safeguards and revitalizing the U.S. safeguards technology and human resource base.

In FY 2008, the Office of Nonproliferation and International Security will spend approximately \$15 million in support of the Next Generation Safeguards Initiative (NGSI). FY08 activities include the completion of an NGSI "road map," development of state-of-the art safeguards equipment, instrumentation, and concepts, such as the "safeguards by design" approach for new facilities, establishment of pilot partnerships with major universities focused on encouraging young professionals to enter the safeguards field, and promotion of safeguards-conscious nuclear infrastructure development in countries considering the pursuit of nuclear power. We also anticipate holding an international meeting later this year to promote a shared vision and cooperation that advances NGSI's goals.

In FY 2009, the NGSI funding request includes approximately \$12 million above the FY 2008 request to carry out this program plan and continue work begun in FY 2008.

Hearing Date: April 3, 2008/Question 21

GLOBAL THREAT REDUCTION INITIATIVE

Chairman Visclosky. What accounts for the varied out-year funding profile in the Global Threat Reduction Initiative future years nuclear security plan? The FY2009 budget request is \$219.6 million. Out-year requests are planned as follows: FY2010 (\$150.3 million), FY2011 (\$161.1 million), FY2012 (\$173.2 million), and FY2013 (\$177.5 million). Why is the request so high in FY 2009, drop so substantially in FY 2010, and then steadily increase. What does this mean in terms of planned activities?

Mr. Tobey. GTRI is a critical national security program with a large scope of work that can be accelerated. Given its first-line-of-defense mission and track record of achieving meaningful and measurable threat reduction results, we significantly increased GTRI's funding in the FY 2009 Budget Request. Out-year budget requests represent a balance of trade-offs among several high-priority activities. FY2010 and out-year budget requests are currently being re-assessed as part of our five-year budget process.

Hearing Date: April 2, 2008/Question 22

INTERNATIONAL NUCLEAR MATERIALS PROTECTION
AND COOPERATION

Chairman Visclosky. Mr. Secretary, similarly, last year we gave you a large increase in International Nuclear Materials Protection and Cooperation, up from \$597M in FY 07 to \$624M in FY 08, and now the Administration is asking for a large cut, way down to \$430M. What did we get for the increase in FY 08, and why the precipitous drop in the current request?

Mr. Tobey. With the additional funds available in FY 2008 we were able to accelerate critical MPC&A projects in Russia, such as upgrades in the Rosatom weapons complex, training and maintenance infrastructure projects for the Russian Ministry of Defense (MOD), and critical efforts underway outside Russia. We were also able to compensate for some legitimate cost escalation created by the devaluation of the dollar and inflation in Russia, which could have otherwise delayed some projects significantly.

The extra funding also allowed for acceleration of efforts in the Second Line of Defense (SLD) program, including the Megaports effort. The additional funding provided to support Second Line of Defense Program activities is being used to support additional pilot deployments of the Advanced Spectroscopic Portal (ASP) monitors that were purchased under the Department of Homeland Security Domestic Nuclear Detection Office contract, the deployment of various mobile radiation detection devices (e.g., straddle carriers and mobile vans), to implement a Help Desk capability to support sustainability efforts, and to accelerate deployments at both Megaports and core locations.

The decrease in the FY 2009 request is due to the anticipated completion of comprehensive MPC&A upgrades to nine Russian 12th Main Directorate sites in 2008, the completion of MPC&A upgrades under the Bratislava Agreement at Rosatom sites, and completion of the majority of cooperation with countries outside of Russia and the Former Soviet States.

Hearing Date: April 3, 2008/Question 23

ROSATOM

Mr. Visclosky. Again turning to the question of whether the security obtained is as good as we would like it to be, your request for securing the ROSATOM nuclear weapons complex in Russia under MCP&A has dropped steeply, from \$79 million in FY08 to only \$32 million requested for FY09. The reason for this is that most of the projects have been completed, and major work remains to be done only at three sites: Mayak, Arzamas-16, and Chelyabinsk-70. But given that many aspects of Russian society are famous for not working as advertised, how do we know that we're getting our money's worth? What reason do you have for confidence that these sites are as secure as advertised?

Mr. Tobey. Ultimately, what I can confirm is that the Russian facilities we have worked with will have the tools they need to provide good security. That is obviously different than saying they are "secure". As you know, many aspects of security, such as adherence to procedures and regulations, devoting sufficient budgets to utilize systems, and effective, independent inspections are Russian responsibilities. I cannot credibly make guarantees regarding Russian performance in these areas. Russia will need to devote increasing resources to these areas as we conclude our assistance, and their willingness to do so remains to be seen. I can, however, describe our efforts to smoothly transition away from U.S. assistance to full Russian responsibility for security. In our work with Russia on the development of a Joint Sustainability Plan and the follow-on Joint Transition Plan, we have emphasized seven elements of sustainability of MPC&A upgrades. These are:

1. Site MPC&A Organization
2. Site Operating Procedures (Instructions)
3. Human Resource Management and Site Training
4. Operational Cost Analysis
5. Equipment Maintenance, Repair, and Calibration
6. Performance Testing and Operational Monitoring
7. MPC&A System Configuration Management.

We are working with our Russian counterparts to identify the requirements at each site, and the actions required to meet these requirements. Rosatom is approaching this process in a serious manner, and has committed to the transition process as well. Over the next few years, we will work closely with our counterparts at site and infrastructure project levels to transition the responsibility for each of these elements to the Russians. This process will be monitored by the Joint Sustainability Working Group under the supervision of the Joint Coordination Committee. In addition, we continue to work with Russia on the development of improved security regulations, inspections, and nuclear security culture.

INTERAGENCY COORDINATION

Chairman Visclosky. A very recent Congressional Research Service report states that, in the view of many experts:

"coordination problems remain today, even though each of the three key agencies -- DOD, DOE and State -- funds and manages its own projects. These agencies still need to coordinate their efforts to avoid duplication and, in some cases, to share resources and expertise. In addition, with the programs spread among three agencies, no one in the U.S. government takes the lead in setting policies and priorities for U.S. threat reduction and nonproliferation assistance, or in serving as an advocate for these programs in interagency debates."

One solution has been proposed to have the National Security Council act as coordinator, and possibly have control over how nuclear nonproliferation funding is parceled out to the three agencies.

It seems to me inevitable that such coordination could give us more output at lower total cost. What is NNSA's view on that?

Mr. Tobey. We endeavor to consult and coordinate with other U.S. government agencies involved in nonproliferation, for instance, through our regular NNSA-DTRA "Bridge" meetings and trilateral NNSA/NRC/DHS meetings. In that vein, we believe that increased interagency communication can help address the concerns cited regarding duplications of effort and expertise-sharing. Additionally, both the National Security Council and the Office of Management and Budget coordinate policy and budget priorities for nonproliferation programs.

Hearing Date: April 3, 2008/Question 25

INSIDER THREATS

Chairman Visclosky. No matter how secure you make the fences and gates, I am concerned about the possibility of insider threats at Russian installations. Even with the recent improvements in the Russian economy and their standard of living, their vulnerability to bribery remains far higher than in the West. This is augmented by the centuries-old tradition of bribery in Russia, which began long before Communism and continues after it. In addition, Russian culture places more emphasis on helping family and friends, as opposed to loyalty to country. What programs are you developing to counter insider threats?

Mr. Tobey. This is a very serious threat, and defense against it requires more than the upgraded equipment we provide. It requires adherence to procedures, various forms of surveillance, oversight, and strong security culture. DOE teams work to install nuclear material monitoring capabilities, Tamper Indicating Devices, portal monitors, personnel access controls and other types of equipment to control access to nuclear materials by insiders, and monitor their activities once access has been granted. DOE teams also seek to strengthen the procedural adherence of operations and security personnel at Russian nuclear sites by supporting personnel training and system performance testing exercises. Further, DOE supports a Russian Federation-wide project intended to strengthen the security culture prevalent at Russian sites. Last year, we completed internal (U.S.-only) red team exercises focused solely on insider theft scenarios at each facility we work with in Russia.

DOE is also working with the Russian Ministry of Defense (MOD) to assure that personnel are psychologically and physiologically suitable for handling nuclear materials, managing MPC&A personnel and systems. A Personnel Reliability Program (PRP), consisting of psychological evaluations and drug testing (and associated equipment), aberrant behavior recognition, and appropriate training and education, provides a significant layer of insider protection through timely detection of individual problems that would place weapons-grade nuclear material at risk in Russia. DOE has asked Rosatom to establish similar cooperation, but Rosatom has repeatedly refused PRP assistance.

NNSA INITIATIVES FOR PROLIFERATION PREVENTION

Chairman Visclosky. In a December 2007 report (GAO-08-189), GAO raised serious concerns about the management and direction of the NNSA's Initiatives for Proliferation Prevention (IPP) program, which was begun in 1994 to engage former Soviet weapons scientists in nonmilitary work in the short term and create private sector jobs for these scientists in the long term. These concerns included excessive carryover balances, overstated accomplishments, and the lack of an exit strategy for the program.

Given the recent findings from GAO and the hearings held by the House Energy and Commerce Committee, how does NNSA propose to revise the budget for the IPP program to address the concerns that have been raised?

Mr. Tobey. Due to concerns raised by members of the House Energy and Commerce Committee (HECC), DOE has undertaken a comprehensive look at all aspects of GIPP, drawing on a 2006 internal assessment, the GAO report, and consultations with Congress, the State Department and other stakeholders. We have not made final decisions with respect to future year funding. The FY 2009 budget request is about \$24 million, \$6 million below the FY 2008 appropriated amount, and the request for FY 2010 will be reduced further.

Chairman Visclosky. How much have you requested in this budget for direct or indirect support for former weapons scientists? How does this compare to each year since the program was begun?

Mr. Tobey. The entirety of the GIPP program budget request of about \$24 million for FY 2009 is designated for scientist redirection, with funds providing direct or indirect support of former weapons scientists, engineers and technicians. This is consistent with DOE/NNSA scientist redirection efforts since they began in 1994. The funding engages former WMD personnel on applied research and development efforts, while providing the necessary technical and management oversight.

Chairman Visclosky. How many scientists would this budget request support, and how does this compare to every year since the program's inception?

Mr. Tobey. The FY 2009 budget request is expected to engage approximately 7,700 scientists, engineers and technical staff through grant payments from GIPP projects. Since inception, DOE/NNSA scientist engagement efforts have supported on average between 6,000 and 8,000 scientists, engineer and technical staff annually. The variation is a function of differing factors in project initiation (some institutes, countries, technologies are easier to work with than others); implementation issues (research results leading to a redirection of project work scope; loss or change of U.S. industry partner or key project personnel, etc.); and project termination or redirection of funds to new efforts.

Chairman Visclosky. How many of these scientists began their education or employment after the program began?

Mr. Tobey. GIPP does not maintain or track this data. It is the application of education or employment skills to the development of WMD technologies – rather than the age of program participants – that serves as a critical factor in evaluating a scientist's WMD background.

Chairman Visclosky. Please provide for the record a spreadsheet detailing each former weapons scientist supported by your program, how long they have been supported by the U.S. Government (including the Department of Defense, the State Department, or other agency supporting non-proliferation activities), and when they began their specialized education.

Mr. Tobey. GIPP does not systematically maintain such information from other U.S. Government departments. Obtaining and openly discussing this information could be an inappropriate use of proprietary data. Even with such data, GIPP could not guarantee its accuracy, for example, with respect to "when they began their specialized education." Obtaining and releasing such information would require Russia's agreement. We are willing to take this up with Russia and other U.S. Government agencies if requested.

Hearing Date/Question Number(s): April 3, 2008/Question 27

NNSA INITIATIVES FOR PROLIFERATION PREVENTION

Chairman Visclosky. Now, please compare this to support for U.S. scientists here in the U.S. weapons labs.

How much of the NN program goes to support U.S. weapons scientists at the NNSA labs?

Mr. Tobey. The GIPP program does not specifically support U.S. weapons scientists at the NNSA labs. The program funds the labs to provide technical oversight and project management of GIPP projects. Program funds going to DOE and NNSA labs are limited to no more than 35% of total GIPP program funds.

Hearing Date: April 3, 2008/Question 28

NNSA INITIATIVES FOR PROLIFERATION PREVENTION

Chairman Visclosky. The GAO issued a report in December containing some devastating criticism of the IPP program.

What steps has DOE taken to implement the recommendations GAO made in its recent report on the IPP program?

Mr. Tobey. NNSA concurred with 9 of 11 GAO recommendations, many of which were underway already prior to the GAO audit. In accordance with 31 U.S.C. 720, NNSA will provide the required Management Decision document to the Congress as its formal response to the recommendations in the final GAO report, outlining the specific actions to be taken with regard to each of GAO's recommendations. These include, for example, accelerating steps to reorient the program toward institutes to be considered the highest priority, identifying potential areas and projects for cost-sharing with Russia, and further improving management systems. To strengthen coordination with the Department of State, GIPP is working with State colleagues to develop a shared "Terms of Reference" to guide future project selection, implementation, and review.

Chairman Visclosky. How much carryover did this program have at the end of fiscal year 2007? Given that the program received an increase of \$10 million in fiscal year 2008, does the Department have confidence that it can spend these funds in an efficient manner and that further appropriations in fiscal year 2009 will not lead to increased carryover balances?

Mr. Tobey. GIPP started FY08 with \$34.6 million in carryover, a significant decrease from \$74 million in FY05. The increase of \$10 million is planned for unfunded priority projects that the program had identified; these funds will be committed and costed in a manner that does not add to outyear funding requirements in Russia and the FSU. The program continues to reduce carryover balances, and current efforts to streamline payment mechanisms are helping to accelerate this process.

Chairman Visclosky. GAO raised concerns about the overall performance metrics and long-term goals of the IPP program, noting that DOE's metrics are based on a 1991 National Academy of Sciences assessment of the WMD scientist population in the former Soviet Union. In DOE's Fiscal Year 2009 Congressional Budget Justification, the IPP program's metrics are still based on this assessment. Why, after 17 years, are the performance metrics for this program still tied to this outdated assessment and what steps has DOE taken to devise updated metrics for the IPP program?

Mr. Tobey. As we told the GAO on several occasions, performance measures do not rely on the original 1992 National Academy of Sciences (NAS) assessment. The original NAS assessment served as a starting point, with revised estimates reflecting changing circumstances in subsequent years. GIPP's most recent revision was made in the course of the OMB Program Reporting Assessment Tool (PART) exercise completed in FY 2005 (which resulted in a PART score of 93 for the program). These revisions

took into account retirements and mortality, as well as the impact of other scientist engagement programs, and resulted in updating the target engagement population for the program to an estimated 17,000. Accordingly, GIPP's FY 2009 congressional budget justification is based on updated information, not on outdated figures from 1992.

Long-term program accomplishments are to be reassessed using a facility-based risk analysis. This analysis is integral to GIPP's proposed revision of program metrics. Our intention is to measure our engagement at high-risk facilities and not measure the numbers of jobs created or scientists engaged.

Chairman Visclosky. GAO recommended that DOE seek cost-sharing from Russia for future IPP projects in that country. However, DOE took no position and did not comment on this recommendation in its official agency comments on GAO's report. Why did the department not take a position on this recommendation? Will DOE seek cost-sharing on future IPP projects in Russia as GAO recommended?

Mr. Tobey. NNSA inadvertently omitted reference to this recommendation in its November 21, 2007 letter responding to GAO's draft report. This will be corrected in NNSA's formal Management Decision document, addressing recommendations in the final GAO report, which will be submitted to the Congress in accordance with procedures of 31 U.S.C. 720. We concur with this recommendation and plan to raise the issue with Russian counterparts. We are planning to meet with key Russian officials in May, and to follow-up with higher level meetings shortly after that.

Chairman Visclosky. What is an acceptable percentage of WMD scientists in Russia or the former Soviet states that should be engaged in an IPP project? DOE's guidance says it should be no less than 60 percent, but in its December 2007 report, GAO found many cases where this threshold was not met. If DOE policy is to permit 50 percent (or fewer) participants with WMD experience on an IPP project, how can this program be described as a nonproliferation program when potentially over half of the participants may not have had weapons experience of any kind?

Mr. Tobey. The GAO report states that only a minority of former Soviet project participants have WMD experience, based on a review of a select number of project payment records. GAO denied our oral request in September 2007 to identify those projects and payment records they had reviewed, so GIPP program officials were unable to verify GAO's figures. Our own analysis of all GIPP projects indicates that a majority of GIPP project participants possess former WMD experience or expertise. This is consistent with GIPP program guidance, which requires that GIPP projects involve a preponderance of former WMD scientist participants. The number of non-WMD participants – regardless of age – should be minimal and only at the level needed to ensure that projects involving a U.S. industry partner will succeed. Given the complexity of GIPP projects, it is not possible to engage the WMD expert community without expanding the overall scope of project participants. GIPP accepts that guidance on this point could be improved and the program will do so.

Chairman Visclosky. To what extent can DOE guarantee that every Russian/FSU scientist involved in an IPP project who claimed to have WMD experience actually possesses such a background? In other words, how does DOE verify that all the participants on an IPP project are who they claim to be?

Mr. Tobey. As detailed in the GAO report, GIPP project participants declare whether or not they possess weapons experience and specific expertise, such as nuclear weapons design, construction, or characteristics. These declarations are certified by the foreign institute director and the host government overseeing the institute. GIPP checks the WMD backgrounds of a representative sample of WMD personnel from each institute or department. Our reviews are based on informed judgments by U.S. Government scientific experts; assessments of open source reporting (e.g., publications); and declarations of each foreign participant certified by the associated institute and foreign government ministry. This is the same practice used by other U.S. scientist engagement programs.

Chairman Visclosky. When do you believe that U.S. assistance to Russia and other former Soviet states through the IPP program should end? If you are opposed to a draw-down and development of an "exit strategy" for the IPP program please explain why.

Mr. Tobey. In response to both our 2006 internal assessment and the GAO audit, GIPP will develop a strategic plan that addresses GAO recommendations concerning implementation of the program, including: better documentation for project participants, development of streamlined financial processes, reducing uncashed balances, improved metrics, and the role of industry. The issue of exit strategy will also be addressed. To that end, the program has already made strategic decisions that reduce and will eventually eliminate projects that do not involve institutes deemed as highest priority.

Chairman Visclosky. Recognizing that there is no formal U.S.-Russian agreement for nuclear cooperation, what steps has DOE taken to ensure that any cooperation and assistance provided to IPP projects in Russia to advance the Global Nuclear Energy Partnership are compliant with the terms and requirements of the Atomic Energy Act?

Mr. Tobey. All GIPP projects undergo an extensive review process, including analysis regarding potential dual-use technology, potential military applications and matters related to export control, including the requirements of the Atomic Energy Act. Projects that may involve export-controlled information or technology must be submitted to and approved by the appropriate U.S. interagency export licensing committees. For the several GIPP projects in the area of advanced nuclear energy systems that may involve export-controlled information, each was structured so that the technology flow is from Russia to the United States.

NONPROLIFERATION PRIORITIZATION

Chairman Visclosky. Mr. Tobey, each year Congress provides billions of dollars to support non-proliferations efforts. Obviously, we place a great deal of importance on the success of these activities. Unfortunately, we do not have a clear idea of your current and out-year plans and priorities. Frankly, I do not understand how we can be confident of your agency's direction when you do not yet have a comprehensive accounting of sensitive material nor, apparently, cross-checks in place to ensure U.S. taxpayer funds are not supporting Russian institutions working on Iran's nuclear program.

Please update the Committee on your efforts with other agencies to develop a comprehensive database of sensitive, unsecured material globally. Why should we be confident that you are working to address the greatest threats before this assessment is complete?

Mr. Tobey. In April 2006, the U.S. Department of Energy, with extensive input from the Department of State, Nuclear Regulatory Commission (NSC), and the U.S. intelligence community, developed an integrated comprehensive global list of all nuclear facilities and submitted it to the U.S. Congress as part of our reporting requirements under the so-called 3132 report required by the National Defense Authorization Act. That report has been used by NNSA and others within the U.S. Government to set priorities and direct funding for specific programs such as NNSA's Office of International Material Protection and Cooperation and Global Threat Reduction Initiative (GTRI) security efforts.

Knowledge of the location and status of fissile materials, the essential component of any nuclear device, and utilization of that knowledge to mitigate threats posed by such materials is essential to our national security. To enhance the protection of the United States against threats posed by nuclear proliferation and terrorism, the President directed the establishment of a Nuclear Materials Information Program (NMIP), a DOE-managed interagency program to develop an integrated system of information from all sources concerning worldwide nuclear material holdings and their security status. NMIP will support all-source information fusion to make an attribution assessment and is a resource for policy makers, law enforcement, and the intelligence community.

Furthermore, each of the individual programs maintains detailed records of the facilities they work at to further assess and prioritize risk reduction efforts. All of the data mentioned above will serve as a valuable resource for NNSA in preparation of its response to Section 3134 of the 2008 National Defense Authorization Act, requiring similar reporting to that required in the 3132 report. The Section 3134 report will be provided to Congress in September 2008.

Since 2005, NNSA's Global Threat Reduction Initiative has also been cooperating closely with the IAEA and six other key IAEA Donor States in the development of priorities for physical protection assessments and, if necessary, upgrades because of the suspected attractiveness of the nuclear and/or other radioactive materials located at those

facilities, the perceived security risk, and the proximity of these materials to strategic assets. During the past few years we have also been working very closely with other USG and state and local agencies to identify U.S. domestic facilities that contain materials of security concern.

Chairman Visclosky. Please provide for the record an accounting of each international agreement, treaty, MOU, or other arrangement that includes implicit or explicit funding commitments from the Department of Energy for non-proliferation activities. This should include, at a minimum, the name of the country or partner organization, the date signed, the amount of funding by year, including all out-years until program termination, the purpose of such funding, and the DOE account from which such funding would likely be paid.

Mr. Tobey. For the record, the following are major international agreements, treaties, MOU's or other arrangements that include funding commitments from the Department of Energy.

Second Line of Defense (SLD) Agreements:

(Note: Most of these SLD agreements are non-legally binding.)

Current FY Funding:	FY08 \$266.88 M
Out-year FY Funding:	FY09 \$212.644 M; FY10 \$237.984 M; FY11 \$239.194; FY12 238.232; FY13 243.548
Purpose of Funding:	To implement the Second Line of Defense Program by equipping border crossings, airports and seaports with radiation detection equipment. SLD also provides training in the use of the systems for appropriate law enforcement officials and initial system sustainability support as the host government assumes operational responsibility for the equipment.
DOE/NNSA Account:	NNSA, Office of International Material Protection and Cooperation
Name of country:	Russia
Partner Organizations:	Russian Federation State Customs Committee
Agreement Title:	Protocol Regarding Cooperation between the United States Department of Energy and the Russian Federation State Customs Committee
Agreement Type:	Protocol
Date signed:	June 18, 1998
Name of country:	Netherlands
Partner Organization:	Ministry of Finance
Agreement Title:	Mutual Declaration of Principles by the Department of Energy of the United States of America and the Ministry

	of Finance of the Netherlands Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Declaration of Principles
Date signed:	August 13, 2003
Name of country:	Greece
Partner Organization:	Directorate General of Customs and Excise of the Ministry of Economy and Finance, Atomic Energy Commission
Agreement Title:	Declaration of Intent Between the Department of Energy of the United States of America and the Directorate General of Customs and Excise of the Ministry of Economy and Finance of the Hellenic Republic of Greece and the Greek Atomic Energy Commission Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Declaration of Intent
Date signed:	October 30, 2003
Name of country:	Sri Lanka
Partner Organization:	Ministry of Ports and Aviation
Agreement Title:	Memorandum of Understanding Between the Ministry of Ports and Aviation of the Democratic Socialist Republic of Sri Lanka and the Department of Energy of the United States of America Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	July 20, 2004
Name of country:	Spain
Partner Organization:	Central Agency for Tax Administration
Agreement Title:	Memorandum of Understanding Between the Department of Energy of the United States of America and Central Agency for Tax Administration of the Kingdom of Spain Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	December 21, 2004
Name of country:	Belgium
Partner Organization:	Federal Public Service of Finance of the Kingdom of Belgium
Agreement Title:	Memorandum of Understanding Between the Department of Energy of the United States of America and the Federal Public Service of Finance of the Kingdom of

Agreement Type:	Belgium Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Date signed:	Memorandum of Understanding November 24, 2004
Name of country:	Bahamas
Partner Organization:	Ministry of Finance of the Commonwealth of the Bahamas
Agreement Title:	Memorandum of Understanding Between the Department of Energy of the United States of America and the Ministry of Finance of the Commonwealth of the Bahamas Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	December 30, 2004
Name of country:	Singapore
Partner Organization:	Immigration and Checkpoints Authority
Agreement Title:	Memorandum of Understanding Between the Immigrations and Checkpoints Authority of the Republic of Singapore and the Department of Energy of the United States of America Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	March 10, 2005
Name of country:	Slovenia
Partner Organizations:	Ministry of Finance
Agreement Title:	Agreement Between the Government of the United States of America and the Ministry of Finance of the Republic of Slovenia for Cooperation in the Prevention of Illicit Trafficking in Nuclear and Other Radioactive Materials
Agreement Type:	Agreement under a Government-to-Government Agreement
Date signed:	April 4, 2005
Name of country:	Ukraine
Partner Organization:	State Border Guard Service
Agreement Title:	Implementing Arrangement Between the Department of Energy of the United States of America and the Administration of the State Border Guard Service of Ukraine for Cooperation in the Area of Prevention of Illicit Trafficking in Nuclear and other Radioactive Material

Agreement Type:	Implementing Arrangement under Government-to-Government Agreement
Date signed:	April 8, 2005
Name of country:	Dubai, United Arab Emirates
Partner Organization:	Ports, Customs and Free Zone Cooperation, Dubai, United Arab Emirates
Agreement Title:	Memorandum of Understanding Between the Department of Energy of the United States of America and the Ports, Customs and Free Zone Cooperation, Dubai, United Arab Emirates Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	May 11, 2005
Name of country:	Philippines
Partner Organizations:	Department of Science and Technology
Agreement Title:	Memorandum of Intent Between the Department of Energy of the United States of America and the Department of Science and Technology of the Republic of the Philippines Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Intent
Date signed:	July 19, 2005
Name of country:	Thailand
Partner Organizations:	Royal Thai Customs Department
Agreement Title:	Memorandum of Understanding Between the Royal Thai Customs Department and the Department of Energy of the United States of America in Support of the Declaration of Principles Governing Cooperation Including the Posting of U.S. Customs and Border Protection Officers at the Port of Laem Chabang, Thailand Between the Royal Thai Customs Department and the Bureau of Customs and Border Protection of the United States of America
Agreement Type:	Memorandum of Understanding
Date signed:	September 1, 2005
Name of country:	Oman
Partner Organizations:	U.S. Customs and Border Protection, Royal Oman Police
Agreement Title:	Declaration of Principles Among the Royal Oman Police and the United States Customs and Border Protection, the Department of Energy of the United States of America

	and Concerning Cooperation to Enhance Security of Container Cargo
Agreement Type:	Declaration of Principles
Date signed:	November 19, 2005
Name of country:	China
Partner Organizations:	General Administration of Customs, the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China
Agreement Title:	Memorandum of Understanding Among the General Administration of Customs, the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China and Department of Energy of the United States of America Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	November 19, 2005
Name of country:	Georgia
Partner Organizations:	Ministry of Internal Affairs
Agreement Title:	Implementing Arrangement Between the Government of the United States of America and the Ministry of Internal Affairs of Georgia for Cooperation in the Prevention of Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Implementing Arrangement under Government-to- Government agreement
Date signed:	December 6, 2005
Name of country:	Israel
Partner Organization:	Ministry of Transport
Agreement Title:	Memorandum of Understanding Between the Department of Energy of the United States of America and the Ministry of Transport of the State of Israel Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	December 7, 2005
Name of country:	Azerbaijan
Partner Organization:	State Border Service of Azerbaijan
Agreement Title:	Implementing Arrangement Between the Department of Energy of the United States of America and the State

	Border Service of the Republic of Azerbaijan for Cooperation in the Prevention of Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Implementing Arrangement under Government-to- Government Agreement
Date signed:	December 8, 2005
Name of country:	Honduras
Partner Organization:	Ministry of State, Office of Finance
Agreement Title:	Declaration of Principles Among United States Customs and Border Protection, the Department of Energy of the United States of America, and the Ministry of State, Office of Finance, of the Republic of Honduras Concerning Cooperation to Enhance the Security of Container Cargo
Agreement Type:	Declaration of Principles
Date signed:	December 15, 2005
Name of country:	Uzbekistan
Partner Organizations:	U.S. Department of Defense
Agreement Title:	Memorandum of Understanding Between the U.S. Department of Defense/Office of Cooperative Threat Reduction and the U.S. Department of Energy/National Nuclear Security Administration on Radiation Monitoring and Related Assistance in Uzbekistan
Agreement Type:	Memorandum of Understanding
Date signed:	February 21, 2006, amended September 21, 2007
Name of country:	Armenia
Partner Organizations:	Customs Committee of the Republic of Armenia
Agreement Title:	Memorandum of Understanding between the Department of Energy of the United States of America and the State Customs Committee of the Republic of Armenia concerning Cooperation to Prevent Illicit Trafficking in Nuclear and Other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	March 31, 2006
Name of country:	Kazakhstan
Partner Organizations:	Ministry of Finance
Agreement Title:	Implementing Arrangement Between the Government of the United States of America and the Ministry of Finance of the Republic of Kazakhstan for Cooperation in the

	Prevention of Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Implementing Arrangement under Government-to- Government Agreement
Date signed:	May 5, 2006
Name of country:	American Institute in Taiwan
Partner Organizations:	U.S. Customs and Border Protection, American Institute in Taiwan
Agreement Title:	Memorandum of Understanding Between the Department of Energy of the United States of America and the American Institute of Taiwan Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	May 25, 2006
Name of country:	Jamaica
Partner Organizations:	U.S. Customs and Border Protection, the Ministry of State, Office of Finance, of the Republic of Honduras
Agreement Title:	Declaration of Principles Among the United States Customs and Border Protection, the Ministry of State, Office of Finance, of the Republic of Honduras Concerning Cooperation to Enhance Security of Container Cargo
Agreement Type:	Declaration of Principles
Date signed:	June 20, 2006
Name of country:	Egypt
Partner Organizations:	U.S. Customs and Border Protection, Ministry of Finance of the Arab Republic of Egypt
Agreement Title:	Declaration of Principles Among the United States Customs and Border Protection, the Department of Energy of the United States of America and the Ministry of Finance of the Arab Republic of Egypt Concerning Cooperation to Enhance Security of Container Cargo
Agreement Type:	Declaration of Principles
Date signed:	June 22, 2006
Name of Country:	Dominican Republic
Partner Organizations:	U.S. Customs and Border Protection, General Directorate of Customs of the Dominican Republic
Agreement Title:	Declaration of Principles Among the United States Customs and Border Protection, the Department of Energy of the United States of America and the General Directorate of Customs of the Dominican Republic

	Concerning Cooperation to Enhance Security of Container Cargo
Agreement Type:	Declaration of Principles
Date signed:	July 7, 2006
Name of country:	Colombia
Partner Organizations:	U.S. Customs and Border Protection, Directorate of Customs and Taxation of the Republic of Columbia
Agreement Title:	Declaration of Principles Among the United States Customs and Border Protection, the Department of Energy of the United States of America and the Directorate of Customs and Taxation of the Republic of Colombia Concerning Cooperation to Enhance Security of Container Cargo
Agreement Type:	Declaration of Principles
Date signed:	December 7, 2006
Name of country:	Slovakia
Partner Organization:	Customs Directorate
Agreement Title:	Memorandum of Understanding Between the Customs Directorate of the Slovak Republic and the Department of Energy of the United States of America Concerning Cooperation to Prevent Illicit Trafficking of Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	December 27, 2006
Name of country:	Panama
Partner Organizations:	U.S. Customs and Border Protection, Panamanian Directorate General of Customs of the Ministry of Economics and Finance
Agreement Title:	Declaration of Principles Among the Directorate General of Customs of the Ministry of Economics and Finance of the Republic of Panama, United States Customs and Border Protection, and the Department of Energy of the United States of America Concerning Cooperation to Enhance Security of Container Cargo
Agreement Type:	Declaration of Principles
Date signed:	February 9, 2007
Name of country:	Mexico
Partner Organizations:	Ministry of Finance and Public Credit
Agreement Title:	Memorandum of Understanding Between the Department of Energy of the United States of America and the Ministry of Finance and Public Credit of the United Mexican States Concerning Cooperation to Prevent the

	Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	April 16, 2007
Name of country:	Hong Kong Special Administrative Region
Partner Organizations:	Government of the Hong Kong Special Administrative Region of the People's Republic of China
Agreement Title:	Exchange of Letters
Agreement Type:	Exchange of Letters
Date signed:	July 27, 2007
Name of country:	Mongolia
Partner Organizations:	Ministry of Finance
Agreement Title:	Memorandum of Understanding Between the Government of the United States of America and the Government of Mongolia Concerning Cooperation Prevent the Illicit Trafficking in Nuclear and Other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	October 23, 2007
Name of country:	Republic of Korea
Partner Organizations:	U.S. Customs and Border Protection, Customs Service of ROK
Agreement Title:	Declaration of Principles Among the Department of Homeland Security, U.S. Customs and Border Protection, of the United States of America, the Department of Energy of the United States of America, and the Customs Service of the Republic of Korea Concerning Cooperation to Enhance Security of Container Cargo
Agreement Type:	Declaration of Principles
Date signed:	November 29, 2007
Name of country:	Latvia
Partner Organizations:	Ministry of Interior
Agreement Title:	Agreement Between the Department of Energy of the United States of America and the Ministry of Interior of the Republic of Latvia for Cooperation in the Prevention of Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Government-to-Government Agreement
Date signed:	December 3, 2007
Name of country:	Singapore

Partner Organizations:	U.S. Customs Border Protection, Singapore Ministry of Transport
Agreement Title:	Declaration of Principles Among the United States Customs and Border Protection and the Department of Energy of the United States of America and Ministry of Transport of the Republic of Singapore Cooperation to Enhance the Security of Container Cargo Under the Secure Freight Initiative
Agreement Type:	Declaration of Principles
Date signed:	December 17, 2007
Name of country:	Estonia
Partner Organizations:	Tax and Customs Board
Agreement Title:	Memorandum of Understanding Between the Department of Energy of the United States of America and the Estonian Tax and Customs Board Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Memorandum of Understanding
Date signed:	February 25, 2008
Name of country:	Malaysia
Partner Organizations:	Royal Malaysian Customs
Agreement Title:	Agreement Between the Government of the United States of America and the Government of Malaysia Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material
Agreement Type:	Government-to-Government Agreement
Date signed:	February 27, 2008
Additional Information:	These agreements do not commit the U.S. government to provide any funding or in-kind contributions. Assistance is provided on a case-by-case basis, and is clearly subject to the availability of appropriated funds. Cost sharing is pursued whenever possible.
Additional Information:	These agreements do not commit the U.S. government to provide any funding or in-kind contributions. Assistance is provided on a case-by-case basis, and is clearly subject to the availability of appropriated funds. Cost sharing is pursued whenever possible.

Material Protection Control and Accounting Agreement:

Current FY Funding: FY08 \$357.602

Out-year FY Funding:	FY09 \$217.050; FY10 \$162.527; FY11 \$155.432; FY12 \$156.993; FY13 \$160.516
Purpose of Funding:	Install security upgrades at Russian nuclear facilities, Consolidate weapons-usable materials into fewer buildings at fewer sites; convert highly enriched uranium to low enriched uranium; assist Russia in developing and maintaining a nation-wide MPC&A infrastructure, thereby ensuring that U.S.-funded security upgrades can be maintained by Russia.
DOE/NNSA Account:	NNSA, Office of International Material Protection and Cooperation
Name of country:	Russia
Partner Organization:	Russian Federal Atomic Agency (Rosatom)
Agreement Title:	<i>Agreement Between the Government of the Russian Federation and the Government of the United States of America Regarding Cooperation in the Area of Nuclear Material Physical Protection, Control, and Accounting</i>
Agreement Type:	Government-to-Government Agreement
Date signed:	October 2, 1999
Additional Information:	None
Name of country:	China
Partner Organizations:	China Atomic Energy Agency (CAEA), China Institute for Atomic Energy (CIAE)
Agreement Title:	<i>Agreement Between the Department of Energy of the United States of America and the State Development Planning Commission of the Peoples Republic of China on Cooperation Concerning Peaceful Uses of Nuclear Technologies (PUNT)</i>
Agreement Type:	Government-to-Government Agreement
Date signed:	June 29, 1998
Additional Information:	None
Name of country:	Uzbekistan
Partner Organization:	The Ministry of Foreign Affairs of the Republic of Uzbekistan
Agreement Title:	<i>Cooperation in the Area of Prevention of Proliferation of Nuclear Materials and Technologies</i>
Agreement Type:	Implementing Agreement
Date signed:	June 5, 2001

Additional Information: Cooperation to facilitate the conversion from the use of high-enriched uranium to the use of low-enriched uranium.

Name of country: Republic of Kazakhstan
 Partner Organization: Kazakhstan Atomic Energy Committee
 Agreement Title (#1): *Agreement Between the United States of America and the Republic of Kazakhstan Concerning the Destruction of the Silo Launchers of Intercontinental Ballistic Missiles, Emergency Response, and the Prevention of Proliferation of Nuclear Weapons*

Agreement Type (#1): Implementing Agreement
 Date signed (#1): December 13, 1993
 Agreement Title (#2): *Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of the Republic of Kazakhstan Concerning Control, Accounting, and Physical Protection of Nuclear Material to Promote the Prevention of Nuclear Weapons Proliferation*

Agreement Type (#2): Implementing Agreement
 Date signed (#2): December 13, 1993 and extended December 13, 2007

Additional Information: The U.S. Department of Defense designated the U.S. Department of Energy as the executive agent for implementation on October 8, 1996.

Name of country: Ukraine
 Partner Organization: State Nuclear Regulatory Committee of Ukraine
 Agreement Title (#1): *Agreement between Ukraine and the United States of America Concerning Assistance to Ukraine in the Elimination of Strategic Nuclear Arms and the Prevention of Proliferation of Weapons of Mass Destruction*

Agreement Type (#1): Government-to-Government Agreement
 Date Signed: September 25, 1993
 Agreement Title (#2): *Agreement between the State Nuclear Regulation Committee of Ukraine and the Department of Defense of the United States of America Concerning Development of State Systems of Control, Accounting and Physical Protection of Nuclear Materials to Promote the Prevention of Nuclear Weapons Proliferation from Ukraine*

Agreement Type (#2): Implementing Agreement

Date signed: December 18, 1993
 Additional Information: N/A

Plutonium Disposition Agreements:

Current FY Funding: \$0 funding for FY 2008
 Out-year FY Funding: \$1 million/year in the out-years—subject to change based on progress with Russian plutonium disposition
 Purpose of Funding: To advance U.S. national security and nonproliferation objectives by supporting Russia's disposition of its surplus weapon-grade plutonium.
 DOE/NNSA Account: Office of Fissile Materials Disposition budget request.

Name of country: Russia
 Partner Organization: Federal Atomic Energy Agency (Rosatom)
 Agreement Title: *Agreement between the Government of the Russian Federation and the Government of the United States of America Concerning the Management and Disposition of Plutonium Designated As No Longer Required for Defense Purposes and Related Cooperation (Plutonium Management and Disposition Agreement)*
 Agreement Type: Government to Government Agreement
 Date signed: 2000
 Additional Information:

Name of country: Russia
 Partner Organization: Russian Federation for Atomic Energy (Rosatom)
 Agreement Title: *Joint Statement on Mutual Understanding Concerning Cooperation on the Program for the Disposition of Excess Weapon-Grade Plutonium*
 Agreement Type: Joint Statement
 Date signed: November 2007
 Additional Information: The United States agreed in a November 2007 Joint Statement signed by Energy Secretary Sam Bodman and Rosatom Director Sergei Kiriyeenko that the Department of Energy "intends to contribute \$400 million in accordance with agreed milestones and schedules" for Russian plutonium disposition. The agreed milestones and schedules for provision of the U.S. \$400 million pledge will be developed during upcoming negotiations on amendments to the 2000 Agreement.

Dismantlement and Transparency Agreements:

Current FY Funding: Approximately \$800,000 per year

Out-year FY Funding:	Approximately \$800,000 per year until program termination
Purpose of Funding:	Host Russian monitoring visits to the U.S. shut down plutonium production reactors at Hanford and Savannah River and pay for U.S. technical experts to monitor the shut down plutonium production reactors in Russia and the subject Russian plutonium oxide in storage.
DOE/NNSA Account:	Dismantlement and Transparency
Name of country:	Russia
Partner Organization:	Rosatom
Agreement Title:	<i>U.S.-Russian Federation Plutonium Production Reactor Agreement (PPRA)</i>
Agreement Type:	Government-to-Government
Date signed:	September 1997, as amended March 2003
Additional Information:	
Current FY Funding:	FY08 \$14 million
Out-year FY Funding:	FY09 \$15 million, FY10 \$16 million, FY11 \$16 million, FY12 \$17 million, FY13 \$17 million, FY14 \$7 million
Purpose of Funding:	program termination Carry out transparency monitoring at Russian facilities to ensure that the highly enriched uranium subject to the Agreement is extracted from nuclear weapons, processed, blended down to low enriched uranium, and delivered to the United States. Host Russian transparency monitoring teams to ensure that the uranium is fabricated into fuel for nuclear reactors.
DOE/NNSA Account:	Dismantlement and Transparency
Name of country:	Russia
Partner Organization:	Rosatom
Agreement Title:	<i>U.S.-Russian Federation Agreement on the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons (HEU Purchase Agreement)</i>
Agreement Type:	Government-to-Government Agreement
Date signed:	February 1993
Additional Information:	Related MOU and Protocol: There is a related MOU dated September 1993 and Protocol dated March 1994 that describes transparency activities.
Current FY Funding:	\$3M per year for 2008-2009
Out-year FY Funding:	\$1M for 2010
Purpose of Funding:	Fund cooperative activities with Russia to develop technologies that could be used to monitor warhead dismantlement and materials in storage and technologies

that could be used to detect nuclear terrorism or to mitigate its effects.

DOE/NNSA Account: Dismantlement and Transparency
 Name of country/org: Russia
 Partner Organization: Rosatom
 Agreement Title: *U.S.-Russian Federation Warhead and Security Exchange Agreement (WSSX)*
 Agreement Type: Government-to-Government Agreement
 Date signed: December 1994
 Additional Information: Approximately \$3.5 M per year from 2000-2002 and \$9 M per year from 2003-2005 when the Agreement expired; funding since 2005 has been used to finish projects started prior to the expiration, approximately \$4M per year for 2006-2007.

Russian-origin Nuclear Material Removal Agreements:

Current FY Funding: \$67.8M²
 Out-year FY Funding: FY09: \$39.2M, FY10: \$34.9M, FY11: \$30.0M, FY12: \$29.0M, FY13: \$28.0M (EOL target 2013)³
 Purpose of Funding: Repatriation of 2,000 kilograms of Russian-origin highly enriched uranium fuel. Several Government to Government and Implementing Agreements were negotiated for the countries listed below.

Name of country: Bulgaria
 Partner organization: Ministry of Foreign Affairs (MFA)
 Agreement Title: *Agreement between the Government of the United States of America and the Government of the Republic of Bulgaria to Facilitate the Provision of Assistance for Nuclear Nonproliferation Purposes*
 Agreement Type: Government-to-Government Agreement
 Date signed: March 25, 2008

Name of country: Czech Republic
 Partner organization: Ministry of Industry and Trade (MOIT)
 Agreement Title: *Agreement between the Department of Energy of the United States of America and the Ministry of Industry and Trade of the Czech Republic Concerning Cooperation in the Area of Countering the Proliferation of Nuclear Materials and Technologies*

² Funding numbers provided are for all of Russian-origin nuclear material removal activities including those ongoing activities with countries where an agreement has yet to be signed

³ This out-year funding numbers are requested funds only for all of Russian-origin nuclear material removal activities

Agreement Type: Implementing Agreement
 Date signed: September 17, 2007

 Name of country: Russia
 Partner organization: Federal Atomic Energy Agency (Rosatom)
 Agreement Title: *Agreement between the Government of the United States of America and the Government of the Russian Federation Concerning Cooperation for the Transfer of Russian-Produced Research Reactor Nuclear Fuel to the Russian Federation*

 Agreement Type: Government-to-Government Agreement
 Date signed: May 27, 2004

 Name of country: Uzbekistan
 Partner organization: Ministry of Foreign Affairs
 Agreement Title: Agreement between the Department of Energy of the United States of America and the Ministry of Foreign Affairs of the Republic of Uzbekistan Concerning Cooperation in the Area of Countering the Proliferation of Nuclear Materials and Technologies

 Agreement Type: Implementing Agreement
 Date signed: March 12, 2002

BN-350 Nuclear Material Protection Agreement:

Name of country: Kazakhstan
 Current FY Funding: \$54.5M
 Out-year FY Funding: FY09: \$19.8M, FY10: \$4.8M, FY11: \$1.0M, FY12: \$1.0M (EOL target FY2012)⁴
 Purpose of Funding: Provide for secure storage of 3,000 kilograms of weapons-grade plutonium and 10,000 kilograms of HEU in spent fuel from the BN-350 fast reactor in Kazakhstan
 Partner organization: Ministry of Energy and Mineral Resources
 Agreement Title: *Implementing Arrangements between the Department of Energy of the United States of America and the Ministry of Science – Academy of Sciences of the Republic of Kazakhstan*
 Agreement Type: Implementing Agreement
 Date signed: November 18, 1997

Radiological Source Recovery Agreements:

Current FY Funding: \$3.0 M
 Out-year FY Funding: FY09-FY13 \$2M annually (EOL target TBD)⁵

⁴ These out-year funding numbers are requested funds only.

Purpose of Funding:	Physical protection and removal of vulnerable radiological materials
Name of country:	China
Partner organization:	China Atomic Energy Authority
Agreement Title:	<i>Statement of Intent between the Department of Energy of the United States of America and the China Atomic Energy Authority of the People's Republic of China Concerning Cooperation in the Fields of Peaceful Use of Nuclear Energy and Nuclear Nonproliferation and Counterterrorism</i>
Agreement Type:	Statement of Interest
Date signed:	January 12, 2004
Name of country:	Ukraine
Current FY Funding:	\$2,657,000
Out-Year FY Funding:	The implementation period is May 2003 to August 2008.
Purpose of Funding:	Secure high-priority sites under the jurisdiction of the SNRCU in Ukraine that store at-risk radiological materials.
Partner organization:	State Nuclear Regulatory Committee of Ukraine (SNRCU)
Agreement Title:	<i>Implementing Arrangement between the Department of Energy of the United States and the State Nuclear Regulatory Committee of Ukraine Concerning Cooperation to Enhance the Security of Ukraine's Usable sources of Ionizing Radiation</i>
Agreement Type:	Implementing Agreement
Date signed:	June 23, 2006
Name of country:	Ukraine
Current FY Funding:	Funds supporting this agreement are reflected above.
Out-Year FY Funding:	The implementation period is November 2005 to August 2008.
Purpose of Funding:	Secure high-priority RADON sites under the jurisdiction of MOES in Ukraine that store at-risk radiological materials.
Partner organization:	Ministry of Ukraine for Emergencies and Affairs of Population Protection from the Consequences of the Chernobyl Catastrophe (MOES) in Ukraine
Agreement Title:	<i>Implementing Arrangement between the Department of Energy of the United States and the Ministry of Ukraine for Emergencies and Affairs of Population Protection from the Consequences of the Chernobyl Catastrophe Concerning Cooperation to Enhance the Security of Ukraine's Usable sources of Ionizing Radiation</i>
Agreement Type:	Implementing Agreement
Date signed:	May 26, 2005

⁵ This out-year funding numbers are requested funds only and does not account for funding requirement for Phase III work

International Contributions:

In addition to those programs, above, where DOE/NNSA provides funding to other governments, DOE/NNSA also has statutory authority to accept international contributions from countries for several specific DOE/NNSA nonproliferation programs. To date, DOE/NNSA has signed MOUs with 7 countries that have provided over 44M in international contributions to the Elimination for Weapons Grade Plutonium Production (EWGPP) program, the Global Threat Reduction Initiative (GTRI), and the Second Line of Defense (SLD) program.

FY	Program for Cooperation	Partner	Contribution (\$K)
2005	EWGPP	Canada	7,319.5
2006	EWGPP	Finland	628.0
2006	EWGPP	South Korea	250.0
2006	EWGPP	Netherlands	1,190.2
2006	EWGPP	New Zealand	308.0
2006	EWGPP	United Kingdom	15,808.0
2007	GTRI	Canada	1,738.8
2007	EWGPP	South Korea	250.0
2007	EWGPP	United Kingdom	5,148.0
2007	SLD	Canada	4,418.8
2007	SLD	New Zealand	497.2
2008	GTRI	South Korea	250.0
2008	EWGPP	South Korea	250.0
2008	GTRI	Canada	2,000.0
2008	GTRI	United Kingdom	4,000.0
TOTAL			\$ 44,056.5

Hearing Date: April 3, 2008/Question 30

MOX CONSTRUCTION PROJECT

Chairman Visclosky. Mr. Tobey, we have made it clear that the MOX plant is not a non-proliferation activity. There is no longer any connection with the Russian disposition program, and there is no need to make any such connection domestically. Accordingly, we have provided instructions to transfer management of the MOX plant from your accounts to Nuclear Energy. You have refused to do so. Secretary Bodman attempted to explain a legal rationale why you are unable, due to the NNSA Act, to transfer MOX. We remain unconvinced. When you ignore simple and clear Congressional direction, why should we trust you to execute your program?

Mr. Tobey. The Department is complying with the laws as enacted by the Congress; in the Consolidated Appropriations Act, 2008, Congress provided funding for the MOX Fuel Fabrication Facility construction project and indicated that the project should continue without disruption in strict compliance with the DOE Project Management Order.

While the Committee may disagree, the Department and the Administration, after hard thought, continue to believe that the MOX project fundamentally serves a nonproliferation and national defense purpose. In this regard, the MOX Fuel Fabrication Facility will allow the Department to meet the United States' commitment under the 2000 *Agreement Between the Government of the Russian Federation and the Government of the United States of America Concerning the Management and Disposition of Plutonium Designated As No Longer Required for Defense Purposes and Related Cooperation*. Secretary Bodman and Russia's Rosatom Director Kiriyenko issued a Joint Statement in November 2007 reaffirming each country's commitment to dispose of excess weapon-grade plutonium in accordance with the 2000 Agreement.

DEFENSE NUCLEAR NONPROLIFERATION AND THE DEPARTMENT OF
DEFENSE

Chairman Visclosky. Mr. Tobey, given the recent lapses in nuclear weapons security and control by the Department of Defense, one might begin to think that a wise use of non-proliferation funding by the Department of Energy would be to either inspect DoD facilities and processes before further weapons would be provided, or to pay to reduce the stockpile even more rapidly, at the expense of any replacement weapons.

- How would you respond to such proposals?

Mr. Tobey. The issue of Department of Defense (DoD) nuclear weapons security and control is best addressed by the DoD. I am confident the DoD is continually looking to improve its nuclear weapons security and accountability processes. At the Department of Energy, we also treat nuclear weapons security and accountability very seriously and we would be pleased to discuss both weapons security and the details of any of our nonproliferation efforts with Congress as desired.

Hearing Date: April 3, 2008 / Question 32

NUCLEAR NONPROLIFERATION ACTIVITIES WITHIN THE UNITED STATES

Chairman Visclosky. I notice that your budget request includes \$14.4 million to secure domestic sealed sources.

Why are we spending nuclear nonproliferation funding to secure domestic sources?

Mr. Tobey. The mission of the Global Threat Reduction Initiative (GTRI) is to reduce and protect vulnerable nuclear and radiological material located at civilian sites worldwide. This includes materials used in the United States. Terrorists seeking materials for use in a dirty bomb may well believe that it is easier to steal materials from a U.S. institution than risk detection and disruption by attempting to smuggle in radiological sources from overseas, fabricate them into a weapon, and then transport the device to a target site. Therefore, GTRI has two programs focused on further increasing the security on the highest priority radiological materials in the United States. The first program, called the Off-site Source Recovery Program (OSRP), safely and securely removes and disposes of unwanted and excess radioactive sources that do not have commercial disposal options and/or that present an immediate emergency situation like in the case where a source owner might have gone bankrupt. On average, approximately 3,000 new radioactive sources are declared excess each year as these sources become no longer needed by licensees. The Department is required by law to secure and provide a disposition pathway for any sealed sources comprising Greater than Class C (GTCC) low-level radioactive waste. The second program, called the Domestic Security Program, provides technical advice, training, assessment, and security upgrades for in-use sources to owners who volunteer to go beyond regulatory requirements again for only the highest priority radiological materials. There are approximately 1,400 sites in the United States that have individual sources in strength over 1,000 curies each.

Through our collaborative efforts and requests for assistance from the Nuclear Regulatory Commission, Department of Homeland Security and other federal agencies, GTRI is significantly decreasing the ability of terrorists to acquire the materials necessary for a dirty bomb by implementing enhanced security measures at voluntary sites. This work directly fulfills objectives outlined in the March 2006 National Security Strategy of the United States of America, Homeland Security Presidential Directive Seven (HSPD-7) and Congressional Authorization. The \$14.4 million budget request is to recover excess, unwanted or abandoned sources under GTRI's Off-Site Source Recovery Program. Under GTRI's Domestic Security program, we are requesting \$25.5 million in the FY2009 Budget Request for domestic security upgrades.

Chairman Visclosky. If we need to spend tens of millions of dollars to secure domestic sealed sources that have been left lying around this country, that suggests to me that the Nuclear Regulatory Commission is not doing enough to protect these materials. In your opinion, should the NRC raise the regulatory "bar" and impose additional requirements on the license holders possessing these nuclear materials?

Mr. Tobey. As noted above, GTRI has two programs focused on further increasing the security on the highest priority radiological materials in the United States – the Off-site Source Recovery Program (OSRP) and the Domestic Security Program. The Department is coordinating very closely with both NRC and DHS in implementing these programs. We welcome the efforts by NRC to implement Increased Controls for radiological materials. Our efforts are based on voluntary agreement by the licensee to go beyond regulatory requirements for the highest priority radiological materials. Thus, we believe our efforts are complementary to those of NRC and are implemented on a voluntary basis.

Chairman Visclosky. How many more years, and how much more funding, will you need to secure the remainder of these domestic sealed sources after FY2009?

Mr. Tobey. Both of GTRI's programs to further increase the security of domestic sealed sources in the U.S. are multi-year efforts and are expected to continue for several years. Under GTRI's Domestic Security Program, there are approximately 1,400 sites in the United States that have individual sources in strengthens greater than 1,000 curies each. Thus, we expect that this will be a multi-year effort to secure these sources and we envision the Domestic Security Program continuing at approximately the same funding level of \$25.5 million each year. At this current funding level, we estimate that it will take until 2022 for completion of these domestic security upgrade efforts. Regarding GTRI's Off-site Source Recovery Program, each year, on average, an additional 3,000 new radioactive sealed sources are declared excess as they become no longer needed by licensees. The Department is required by law to secure and provide a disposition pathway for any domestic sealed sources comprising Greater than Class C (GTCC) low-level radioactive waste. The Department's Office of Environmental Management (EM) leads the effort to establish this disposal pathway for commercial waste. It is likely that the disposal pathway will not be available until 2015. Thus, we envision the Off-Site Source Recovery Program continuing at approximately the same funding level of \$14.4 million each year, and then phasing out its operations by 2020.

NN AND GNEP

Chairman Visclosky. Mr. Tobey, the NN budget request states “on February 6, 2006, Secretary Bodman announced a new comprehensive strategy to promote the expansion of nuclear power” — known as GNEP.

Why does NN think it has a mission to promote nuclear power internationally? Isn't that the job of the International Atomic Energy Agency (IAEA)?

Mr. Tobey. NN does not think it has a mission to promote nuclear power internationally; our mission is to ensure that such promotion (and inevitable growth) is consistent with our nonproliferation objectives. The U.S. Government and the International Atomic Energy Agency (IAEA) share a vested interest in promoting peaceful nuclear uses and preventing nuclear weapons proliferation. Like many other member states, the United States funds and works with and through the IAEA to promote these goals. It's not the job of one organization or nation; it's a global mission. Further, the United States has statutory requirements and policy obligations to ensure that bilateral peaceful nuclear cooperation does not contribute to weapons proliferation. NNSA serves as the technical lead in the U.S. Government in support of these requirements and obligations, and has a long-standing record of accomplishments, ranging from international cooperation on safeguards and physical protection to drafting the control lists of the Nuclear Suppliers Group.

Chairman Visclosky. Under what statutory authority is there for NN to take on a GNEP mission?

Mr. Tobey. GNEP's broad purpose is establishment of a new international nuclear fuel cycle that advances nonproliferation, including through restrictions on the further spread of enrichment and reprocessing technologies; advancement of international safeguards; an end to the stockpiling of separated civil plutonium; and international cooperation. These goals are consistent with long-standing NNSA missions to promote nonproliferation and reduce the global danger from weapons of mass destruction, and they define our role in the supporting the Administration's nuclear energy and nonproliferation agenda.

Chairman Visclosky. How much NN money has been used since the inception of GNEP to support this program, including travel funds? What were these funds for?

Mr. Tobey. Several of the nonproliferation activities that my office is pursuing are related to GNEP in that they contribute to the GNEP objectives cited above. However, many of these objectives would be pursued with or without GNEP. In FY06 and FY07, and through FY08, we project that we will have expended roughly \$6.6 million for GNEP nonproliferation support. These funds were used, for example, to develop a GNEP Nonproliferation Program Plan, to write “country engagement” studies, to ensure international safeguards are a design consideration for proposed GNEP facilities, to perform a Nonproliferation Impact Assessment in parallel to the GNEP

Programmatic Environmental Impact Statement to inform policy makers about the relevant nonproliferation issues, and to participate in GNEP international meetings.

Chairman Visclosky. How much money is in your FY 2009 request to support GNEP activities, and for what purpose?

Mr. Tobey. We do not have specific plans for GNEP support in FY 2009, but expect some continuation of effort for proliferation risk assessments, support for international meetings, and regulatory oversight, which together may total roughly \$2 million.

Hearing Date: April 3, 2008/Question 34

NNSA AND THE INTERNATIONAL NUCLEAR FUEL BANK

Chairman Visclosky. What is the status of the NNSA finding transfer of \$50 million to establish the International Nuclear Fuel Bank?

Mr. Tobey. The Department of Energy is pleased to be able to support the establishment of an International Nuclear Fuel Bank. DOE currently is working out the details of transferring this money to the International Atomic Energy Agency (IAEA). We expect in the near future to recommend that Secretary Bodman sign a letter to IAEA Director General ElBaradei pledging the appropriated funds to the IAEA for the establishment of the International Fuel Bank.

Hearing Date: April 3, 2008/Question 35

NNSA AND THE INTERNATIONAL NUCLEAR FUEL BANK

Chairman Visclosky. What is the status of executing Congressional direction to allow U.S. interests to purchase uranium fuel from the Reliable Fuel Supply in the event of a supply disruption. Have you issued a notice of availability yet to U.S. industry? If not, what is taking so long, and when will this notice be issued?

Mr. Tobey. On March 31, 2008, Nuclear Fuel Services (NFS), the NNSA contractor responsible for down-blending 17.4 metric tons (MT) of surplus highly enriched uranium (HEU) for the Department's Reliable Fuel Supply, began down-blending activities. NNSA already has shipped more than 5 MT of HEU to NFS to date and expects that the down-blending will be complete in 2010. After this fuel becomes available to the Reliable Fuel Supply, DOE will issue the procedures that will govern both the domestic and international distribution of fuel.

Hearing Date: April 3, 2008/Question 36

U.S. WEAPONS SCIENTISTS AT THE NNSA LABS

Chairman Visclosky. How much of funding in the NN program in FY2008 will go to support U.S. weapons scientists at the NNSA labs?

Mr. Tobey. No funding has been provided to support U.S. Weapons scientists at NNSA labs. Rather, we fund activities required to implement our nonproliferation mission and objectives by funding projects at the national laboratories.

Hearing Date: April 3, 2008/Question 37

U.S. WEAPONS SCIENTISTS AT THE NNSA LABS

Chairman Visclosky. How much of funding in the NN program in FY2008 will go to support U.S. weapons scientists at the NNSA labs?

Mr. Tobey. We use our appropriated funds to complete nonproliferation work vitally important to U.S. national security. Some of those efforts depend on the technical expertise of U.S. nuclear weapons experts and U.S. scientists with detailed technical understanding of the technologies and materials related to weapons of mass destruction. In FY08, approximately 64 percent of our appropriate funds went to NNSA labs. In FY09, we increased the portion of our appropriated funding available to small businesses, non-lab contractors, and non-NNSA national laboratories, and we therefore anticipate that only about 43% of our funding will go to NNSA sites, including the weapons labs.

Hearing Date: April 3, 2008/Question 38

NN CARRYOVER

Chairman Visclosky. What was your total carryover from the end of Fiscal Year 2007 into the beginning of Fiscal Year 2008, broken down by major program?

Mr. Tobey. A detailed accounting of this information can be found in the "FY 2007 Year-End Financial Report for Defense Nuclear Nonproliferation (DNN)" dated April 1, 2008.

Hearing Date: April 3, 2008/Question 39



Department of Energy
National Nuclear Security Administration
Washington, DC 20585

April 1, 2008

OFFICE OF THE ADMINISTRATOR

The Honorable Carl Levin
Chairman
Committee on Armed Services
United States Senate
Washington, D.C. 20510-6050

Dear Mr. Chairman:

Pursuant to Section 3121 of the National Defense Authorization Act of 2004, Public Law 108-136, enclosed is the semi-annual financial report on the Defense Nuclear Nonproliferation (DNN) appropriation of the National Nuclear Security Administration for the second half of FY 2007, ending September 30, 2007. The focus of this report is to explain the end-of-year uncosted obligation levels for programs through the analysis of financial commitments.

Much of the DNN program activity takes place outside of the United States, and encompasses smaller operating and capital-type projects executed in partnerships with foreign governments that are not completed for a number of years. As such, uncosted balance levels for these programs often exceed the Department's "uncosted balances" threshold. This metric is designed to indicate the expected level of goods and services on order needed for continuing operations of Department of Energy (DOE) program activities through Management and Operating contractors. Evaluating the programs on the basis of this metric alone gives an impression of excess balances in DNN program execution that is unwarranted. In recognition of this, we are submitting an analysis of contract commitments, or encumbrances, to better indicate the level of funds utilization and program activity.

This semi-annual report reflects accounting data through September 30, 2007, and is provided in the same tabular format as the FY 2006 report. At end of year, costs plus "commitments" are 87 percent of total costing authority, equal to the FY 2006 end of year report.

Nonproliferation objectives are being met, and program milestones are being achieved according to contract specifications. We continue to seek all avenues to reduce the threat of proliferation of weapons of mass destruction as quickly as possible.

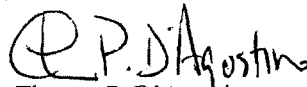


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If you have any questions or need additional information, please contact Mr. David Campbell, Director, Office of Congressional, Intergovernmental and Public Affairs at (202) 586-7332, or Mr. Michael Kane, Associate Administrator for Management and Administration at (202) 586-5753.

Sincerely,


Thomas P. D'Agostino
Administrator

Enclosures

cc: The Honorable John M. McCain
Ranking Member



Department of Energy
National Nuclear Security Administration
 Washington, DC 20585

April 1, 2008

OFFICE OF THE ADMINISTRATOR

The Honorable Byron L. Dorgan
 Chairman, Subcommittee on Energy
 and Water Development
 Committee on Appropriations
 United States Senate
 Washington, D.C. 20510-6050

Dear Mr. Chairman:

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Sincerely,

A handwritten signature in black ink, appearing to read "T. P. D'Agostino". The signature is stylized with a large, looped initial "T" and a cursive "P".

Thomas P. D'Agostino
Administrator

Enclosures

cc: The Honorable Pete V. Domenici
Ranking Member



Department of Energy
National Nuclear Security Administration
Washington, DC 20585

April 1, 2008

OFFICE OF THE ADMINISTRATOR

The Honorable Ike Skelton
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, D.C. 20515-6015

Dear Mr. Chairman:

Pursuant to Section 3121 of the National Defense Authorization Act of 2004, Public Law 108-136, enclosed is the semi-annual financial report on the Defense Nuclear Nonproliferation (DNN) appropriation of the National Nuclear Security Administration for the second half of FY 2007, ending September 30, 2007. The focus of this report is to explain the end-of-year uncosted obligation levels for programs through the analysis of financial commitments.

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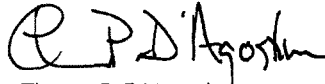
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Sincerely,

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Thomas P. D'Agostino,
Administrator

Enclosures

cc: The Honorable Duncan L. Hunter
Ranking Member



Department of Energy
National Nuclear Security Administration
 Washington, DC 20585

April 1, 2008

OFFICE OF THE ADMINISTRATOR

The Honorable Peter J. Visclosky
 Chairman
 Subcommittee on Energy
 and Water Development, and Related Agencies
 Committee on Appropriations
 U.S. House of Representatives
 Washington, D.C. 20515-6015

Dear Mr. Chairman:

Pursuant to Section 3121 of the National Defense Authorization Act of 2004, Public Law 108-136, enclosed is the semi-annual financial report on the Defense Nuclear Nonproliferation (DNN) appropriation of the National Nuclear Security Administration for the second half of FY 2007, ending September 30, 2007. The focus of this report is to explain the end-of-year uncosted obligation levels for programs through the analysis of financial commitments.

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Thomas P. D'Agostino
Administrator

Enclosures

cc: The Honorable David L. Hobson
Ranking Member

**Semi-annual Financial Report on Defense Nuclear Nonproliferation Programs
FY 2007
September 30, 2007**

Background:

Pursuant to Section 3121 of the National Defense Authorization Act of 2004, Public Law 108-136, this is the semi-annual (end of year) financial report on the Defense Nuclear Nonproliferation (DNN) Programs of the National Nuclear Security Administration (NNSA) for the second half of FY 2007, ending September 30, 2007.

Data Reporting:

As required, the tabular information in this report provides amounts available for the DNN programs including beginning unobligated and uncosted balances; new funding made available by appropriations, reprogrammings, and other means; and ending uncommitted, unobligated, and unexpended balances, as reported in the Department of Energy's (DOE) Standard Accounting and Reporting System (STARS). To ensure consistent reporting, the report uses a definition for operating commitments at the Management and Operating (M&O) contractors consistent with generally accepted accounting principles. The definitions used for this report are included herein.

Financial Data:

Enclosure 2 provides year-end financial data in four tables: Obligation Status, Cost Status, Commitment Status, and Cost Plus Commitment Status. Each of these tables provides Operations and Maintenance (O&M) and Construction funding by program element. The report is presented in the structure of the FY 2007 Operating Plan.

Discussion:

As a result of several Government Accountability Office (GAO) reports and continuing Congressional interest in uncosted balances, DOE developed percentage threshold levels of uncosted balances for O&M funds, consistent with sound financial management for specific types of financial/contractual arrangements. A threshold is an analytical reference point (i.e., specific dollar value or percentage of a cost category or obligational availability) beyond which uncosted obligated balances should be given greater scrutiny. Thresholds are defined as a percentage of Total Funds Available to Cost (TAC), which include the Current Year Beginning Uncosted Obligations plus Current Year Obligations.

There are thresholds established for the individual components of O&M funding and other contractual vehicles. These thresholds are:

Operating Costs at Major Operating Contractors (MOCs)	13%
Operating Costs not related to MOCs	17%
Capital Equipment and General Plant Projects	50%
Grants, CRADAs, and other Cooperative Agreements	No specific threshold; evaluate on case-by-case basis

Looking at costs alone, the uncOSTed balances for many of the DNN programs exceed these thresholds because of the costing patterns for the significant amount of DNN work conducted in foreign countries, including the Russian Federation and the Newly Independent States. Although most of this work is handled through M&O contractors, business transactions with these countries, including contract negotiations and contractual agreements, and the subsequent accounting of these transactions do not follow the normal obligation and costing patterns for funds expended for activities conducted on-site by M&O contractors. The Office of DNN reports that contract negotiations with a foreign entity for a Basic Ordering Agreement or a General Ordering Agreement may take from two to eighteen months to complete, with the Individual Work Orders taking another three to six months to implement. Although funds are obligated up front on the M&O contract handling the negotiations with the foreign entity, costs are not reported until the work has been completed. Depending on the foreign government reviews, site access agreements, export controls, learning curve required to conduct the work, and rework of unacceptable deliverables, the costs associated with these obligations may not be reported for three to 24 months after the Individual Work Orders are placed. This unique situation does result in higher uncOSTed balances than many of the other NNSA programs whose business is conducted primarily within the United States. Therefore, in addition to cost data, commitments should also be considered when reviewing the financial status of these programs.

Program Information:

The following provides additional information on the nature of commitments for programs funded by DNN:

Nonproliferation and Verification Research and Development (operating dollars)

As of the end of FY 2007, 100 percent of obligational authority and 90.1 percent of costing authority were costed/committed, bringing end of year uncommitted obligations within the DOE threshold levels of uncOSTed balances.

Nonproliferation and Verification Research and Development (construction dollars)

Project 06-D-180, Project Engineering and Design, (PED) National Security Laboratory, Pacific Northwest National Laboratory (PNNL)

As of end of year, 100 percent of FY 2007 funds were obligated and 79.1 percent costed/committed. We expect all remaining uncosted/uncommitted PED funds to be costed in early FY 2008.

Project 07-SC05, Physical Sciences Facility at PNNL

As of end of year, 100 percent of FY 2007 funds were obligated, but none of these funds were costed/committed. The NNSA construction funds are being used to support the award of the steel and foundation subcontract. That subcontract was awarded for ~\$14M in November, committing all of the NNSA construction funds provided to date (\$4.2M). CD-3b approval is expected in April 2008 at which time construction funds can be costed.

Elimination of Weapons Grade Plutonium Production (EWGPP)

As of end of FY 2007, 99.9 percent of obligational authority has been obligated and 99.8 percent of costing authority has been costed/committed. End of year uncommitted obligations are within the DOE threshold levels of uncosted balances (as was the case at the end of FY 2006).

Planned cash flow for both the Seversk and Zheleznogorsk projects was based on planned construction for FY 2007. Based on that plan, most funds have been committed by the year end. United States funds must be committed to fixed-price contracts, as the Russians have no working capital for these projects. However, contract funds are not paid until the EWGPP program verifies the costs involved.

Nonproliferation and International Security (NIS)

At end of year, 99.1 percent of obligational authority has been obligated and 77 percent of costing authority has been costed/committed. Several programs within NIS accelerated their obligation of funds in the second half of FY 2007. The Warhead Dismantlement and Fissile Material program initially experienced delays in program work due to an expired Warhead Safety and Security Exchange (WSSX) agreement, but increased its costs/commitments in the second half of the fiscal year once Rosatom provided deliverables and redirected funds to projects with an increased scope. The Nuclear Noncompliance Verification program expedited a number of projects due to increased emphasis on countries of proliferation concern. Export Control assistance to foreign governments and industries accelerated to ensure compliance with international obligations and assistance to the International Atomic Energy Agency (IAEA). The Global Initiatives for Proliferation Prevention program reduced uncosted balances by 50.8 percent during FY 2007 and anticipates obligating and costing funds at a higher than normal rate due to implementing a new, streamlined project management process and expediting the completion of several projects.

International Nuclear Materials Protection and Cooperation (INMP&C)

As of end of year, 99.9 percent of obligational authority has been obligated and 85.4 percent of costing authority has been costed/committed.

In FY 2007, the program expanded its Second Line of Defense (SLD) program activities to include work in the following countries: Russia, Ukraine, Kazakhstan, Republic of Georgia, Azerbaijan, Armenia, Slovenia and Slovakia. SLD Megaports Initiative activities are ongoing in over 20 countries including Belgium, Panama, Columbia, Dominican Republic, China, Dubai, United Kingdom, Israel, Mexico, South Korea, Honduras, Pakistan and Taiwan. These activities include the installation of radiation detection capability at land and border crossings and seaports to detect, deter and interdict the illicit trafficking of nuclear and other radioactive materials along with training of host government custom officials in the use of the equipment.

With regard to Core INMP&C activities, large commitments were completed for ongoing contracts for: MPC&A upgrades at 9 Russian 12th Main Directorate sites; completion of Material Protection Control and Accounting (MPC&A) upgrades at 14 Russian Strategic Rocket Forces sites; upgrades to Russian Rosatom Weapons sites including Arzamas-16, Chelyabinsk-70, Mayak, Tomsk-7 and Krasnoyarsk-26; upgrades to civilian sites including Elektrostal and Bohvar and Afrikantov Experimental Machine Building Design Bureau (OKBM); MPC&A upgrades to one country outside the Former Soviet Union (FSU); and Transportation security upgrades to Rosatom sites for the protection of personnel and weapons usable material.

Fissile Materials Disposition (FMD) (operating dollars)
Fissile Materials Disposition

U.S. Surplus Fissile Materials Disposition (operating dollars)

As of end of year, 99.9 percent of obligational authority has been obligated and 82.5 percent of costing authority has been costed/committed. These funds support O&M activities related to the Mixed Oxide (MOX) Fuel Fabrication Facility (FFF) Project and the Pit Disassembly and Conversion Facility Project which were slowed due to the legislative restriction included in the Revised Continuing Appropriations Resolution, 2007, on obligating construction funding for MOX prior to August 1, 2007. These funds also support other MOX fuel program activities, U.S. highly enriched uranium disposition activities, and other U.S. Surplus Fissile Materials Disposition program efforts.

Russian Surplus Fissile Materials Disposition

As of end of year, 24.8 percent of obligational authority has been obligated and 43.2 percent of costing authority has been costed/committed. Russia has indicated that it remains committed to plutonium disposition and has presented DOE with a technically and financially credible path forward that focuses primarily on irradiating MOX fuel in fast reactors. In November 2007, the U.S. Secretary of Energy and the Russian Federal Atomic Energy Agency Director signed a joint statement outlining a plan to dispose of 34 metric tons of surplus plutonium from Russia's

weapons program. Under the new plan, the United States will cooperate with Russia to convert Russian weapon-grade plutonium into mixed oxide fuel (MOX) and irradiate the MOX fuel in the BN-600 fast reactor, currently operating at the Beloyarsk nuclear power plant, and in the BN-800 fast reactor, currently under construction at the same site. The United States and Russia also intend to continue cooperation on the development of an advanced gas-cooled, high-temperature reactor, which may create additional possibilities for disposition of Russia's plutonium.

Russia intends to implement this program, with the U.S. contributing \$400 million, as previously pledged for cooperation under the 2000 Plutonium Management and Disposition Agreement and subject to appropriations by the U.S. Congress.

The Russian program has not requested any new budget authority in recent years, and intends to use its unobligated balances to fund limited ongoing technical work and negotiations with Russia. Note that this report excludes \$151 million in unallotted funding for Russian surplus fissile materials disposition that remained unobligated at the end of FY 2007. This funding was subsequently rescinded in the FY 2008 Consolidated Appropriations Act.

U.S. Surplus Fissile Materials Disposition (construction dollars)

As of end of year, 57.5 percent of obligational authority has been obligated and 94.5 percent of costing authority has been costed/committed. Obligation of funds has been slowed due to the legislative restriction included in the Revised Continuing Appropriations Resolution, 2007, on obligating construction funding prior to August 1, 2007. The remaining unobligated funds are for the MOX construction project. DOE expects to obligate these funds in FY 2008 to maintain the validated cost and schedule baseline for the MOX project.

Global Threat Reduction Initiative (GTRI)

As of end of year, 99.9 percent of obligational authority has been obligated and 88.4 percent of costing authority has been costed/committed. In FY 2007, the program continued to accelerate and expand threat reduction work. The program completed the conversion or shutdown of an additional 8 research reactors (for a cumulative total of 55 research reactors) from use of HEU fuel to LEU fuel; removed an additional 425 kilograms of HEU and plutonium (for a cumulative total of 1,791 kilograms removed) from Russian-origin and US-origin sources; removed an additional 1,625 domestic radiological sources (for a cumulative total of more than 15,500 excess radiological sources in the United States); and, completed protection efforts at an additional 99 vulnerable sites worldwide (for a cumulative total of 600 radiological sites protected).

Large commitments were completed during the year for the cask procurements to support the BN-350 reactor protection efforts and several Russian-origin nuclear material removal efforts worldwide, including funding to support shipments from Vietnam, Kazakhstan, and the Czech Republic.

Definitions

Unobligated Carryover = unobligated funds from the previous fiscal year carried over into the current fiscal year.

Adjusted New Obligation Authority = new budget authority provided in the current fiscal year adjusted for actions such as supplemental appropriations, reprogrammings, use of prior year balances, rescissions, etc.

Obligational Authority = the sum of Unobligated Carryover and Adjusted New Obligation Authority. It includes all obligational authority, both allotted and unallotted (i.e., funds that may be held in DOE Reserve account and not currently available for obligation).

Obligational Authority Allotted = the Total Obligational Authority allotted and available to obligate in the current fiscal year. (Does not include funding held in DOE Reserve for proposed reprogrammings or other purposes).

Obligations = actual obligations incurred year to date [contracts awarded/modified by DOE].

Unobligated = amounts not yet obligated.

Beginning Uncosted Obligations = obligated amounts that were uncosted at the end of the previous fiscal year and were carried into the new fiscal year.

Costing Authority = Beginning Uncosted Obligations + Year To Date obligations.

Costs = actual costs incurred year to date [receipt of goods and services].

Uncosted Obligations = obligated amounts which have not been costed [Goods and Services on Order].

Commitments = Outstanding Contractor Encumbrances by the M&O contractors plus the full amount of Uncosted Obligations for direct contracts awarded to non-M&O contractors.

Outstanding Contractor Encumbrances represent uncosted balances under contracts awarded by the integrated M&O contractor and uncosted balances related to other integrated M&O contractor liabilities. Encumbrances consist of uncosted balances of (1) purchase orders issued; (2) contracts and subcontracts awarded including the full liability under lease purchase and capital leases; (3) termination costs for incrementally funded firm fixed price contracts, operating lease agreements, and multi-year service contracts that contain termination clauses; and (4) other agreements for the acquisition of goods and services not yet received and uncosted balances related to other integrated M&O contractor liabilities. Encumbrances include uncosted balances of work orders or authorizations issued to integrated M&O construction contractors provided such work is specific in scope and has clear milestones or tangible deliverables.

NOTE: Commitments are, in effect, an understatement of anticipated future costs. The commitment amounts reported by the M&O contractors do not include any overhead amounts that would eventually be applied when the costs are reported. Thus the actual costs for these planned activities will be higher than the commitment amounts.

Committed Uncosted Obligations = essentially subcontracts awarded by integrated M&O contractors plus uncosted balances on direct awarded contracts to other than integrated M&O contractors.

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Table 1 -- Obligation Status											
Expense Type	Program	Construction Project Title	A	B	A/B	% Obligated	A-B	D/A	% Unobligated	%	
Operating	Nonproliferation and Verification Research and Development	Nonproliferation and Verification Research and Development	238,107,219	258,986,957	100.0%	100.0%	21,162	0.0%	21,162	0.0%	
		Elimination of Weapons Grade Plutonium Production	231,172,007	230,676,135	99.9%	99.9%	135,932	0.1%	135,932	0.1%	
		Nonproliferation and International Security *	124,893,443	123,775,627	99.1%	99.1%	1,117,816	0.9%	1,117,816	0.9%	
		International Nuclear Materials Protection and Cooperation	598,626,311	597,784,613	99.9%	99.9%	841,498	0.1%	841,498	0.1%	
		U.S. Surplus Fissile Materials Disposition	171,843,666	171,626,718	99.9%	99.9%	216,948	0.1%	216,948	0.1%	
		Russian Surplus Fissile Materials Disposition	57,807,032	14,252,483	24.6%	24.6%	43,294,749	75.2%	43,294,749	75.2%	
		Global Threat Reduction Initiative	1,579,001,139	1,529,633,016	97.1%	97.1%	45,747,663	2.9%	45,747,663	2.9%	
Operating Total			1,575,001,139	1,529,633,016	97.1%	97.1%	45,747,663	2.9%			
Construction	Nonproliferation and Verification Research and Development	Nonproliferation and Verification Research and Development	421,334	0	0.0%	0.0%	421,334	100.0%	421,334	100.0%	
		06D180000, PIED, National Security Laboratory, PNNL	3,700,000	3,700,000	100.0%	100.0%	0	0.0%	0	0.0%	
		075C05000, Physical Sciences Facility, PNNL	4,220,000	4,220,000	100.0%	100.0%	0	0.0%	0	0.0%	
		U.S. Surplus Fissile Materials Disposition	32,189,001	32,766,068	100.0%	100.0%	2,913	0.0%	2,913	0.0%	
		99D141000, Plutonium and Conversion Facility, Savannah River, SC	15,500,000	15,500,000	100.0%	100.0%	0	0.0%	0	0.0%	
		99D141000, Waste Solidification Building, Savannah River, SC	491,862,774	491,862,774	100.0%	100.0%	0	0.0%	0	0.0%	
		99D143000, Mixed Oxide Fuel Fabrication Facility, Savannah River, SC	548,593,109	548,593,109	100.0%	100.0%	0	0.0%	0	0.0%	
		01D407000, Highly Enriched Uranium (HEU) Blend Down, Savannah River, SC	213,394,248	318,769,958	98.1%	98.1%	229,864,111	41.9%	229,864,111	41.9%	
		Construction Total			3,177,580,348	8,667,626	99.9%	99.9%	775,631,774	13.0%	

* Includes HEU Transagency Implementation, Global Initiatives for Proliferation Prevention, and Accelerated Highly Enriched Uranium Disposition

Table 2 -- Cost Status

Table 2 - Cost Status																	
Expense Type	Program	Construction Project Title	A		B		C		D		E		F		G		
			Beginning Unobligated	YTD Obligations (End FY Oblig)	YTD Obligations (End FY Oblig)	Costing Authority (Funds)	YTD Costed	% Costed	YTD Ending Unobligated	% Unobligated							
Operating	Nonproliferation and Verification Research and Development	Nonproliferation and Verification Research and Development	63,528,943	258,086,057	314,613,261	275,941,208	80.8%	65,675,053	19.2%	65,675,053	19.2%	65,675,053	19.2%	65,675,053	19.2%	65,675,053	19.2%
		Elimination of Weapons Grade Plutonium Production	193,955,812	123,706,006	240,431,947	274,773,918	53.3%	195,638,029	47.0%	195,638,029	47.0%	195,638,029	47.0%	195,638,029	47.0%	195,638,029	47.0%
		International Nuclear Materials Protection and Cooperation	116,971,795	123,706,006	426,678,401	153,363,642	63.7%	67,514,780	36.3%	67,514,780	36.3%	67,514,780	36.3%	67,514,780	36.3%	67,514,780	36.3%
		U.S. Surplus Fissile Materials Disposition	105,898,351	171,626,718	1,024,537,993	172,732,493	62.4%	194,192,576	37.6%	194,192,576	37.6%	194,192,576	37.6%	194,192,576	37.6%	194,192,576	37.6%
		Russian Surplus Fissile Materials Disposition	57,807,032	14,252,483	72,059,515	9,338,506	10.7%	77,892,168	89.3%	77,892,168	89.3%	77,892,168	89.3%	77,892,168	89.3%	77,892,168	89.3%
		Global Threat Reduction Initiative	44,489,071	137,761,843	177,250,914	77,280,142	43.5%	99,467,701	56.5%	99,467,701	56.5%	99,467,701	56.5%	99,467,701	56.5%	99,467,701	56.5%
		Operating Total	1,045,672,779	1,528,985,480	2,577,625,559	1,730,253,559	51.7%	1,247,462,700	48.3%	1,247,462,700	48.3%	1,247,462,700	48.3%	1,247,462,700	48.3%	1,247,462,700	48.3%
Construction	Nonproliferation and Verification Research and Development	Nonproliferation and Verification Research and Development	12,128,632	0	15,838,632	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		06D180000, PIED, National Security Laboratory, PNNL	3,700,000	0	4,220,000	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		075C05000, Physical Sciences Facility, PNNL	4,220,000	0	4,220,000	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		U.S. Surplus Fissile Materials Disposition	10,902,109	32,786,068	42,788,176	19,631,599	45.9%	23,156,578	54.1%	23,156,578	54.1%	23,156,578	54.1%	23,156,578	54.1%	23,156,578	54.1%
		99D141000, Plutonium and Conversion Facility, Savannah River, SC	15,502,311	15,502,311	10,194,630	65,896,106	65.8%	5,308,391	34.2%	5,308,391	34.2%	5,308,391	34.2%	5,308,391	34.2%	5,308,391	34.2%
		99D141000, Waste Solidification Building, Savannah River, SC	246,481,107	246,481,107	177,407,638	177,407,638	71.9%	177,407,638	71.9%	177,407,638	71.9%	177,407,638	71.9%	177,407,638	71.9%	177,407,638	71.9%
		99D143000, Mixed Oxide Fuel Fabrication Facility, Savannah River, SC	548,593,109	548,593,109	508,981,106	508,981,106	92.8%	49,612,003	9.2%	49,612,003	9.2%	49,612,003	9.2%	49,612,003	9.2%	49,612,003	9.2%
		01D407000, Highly Enriched Uranium (HEU) Blend Down, Savannah River, SC	258,612,769	318,708,398	367,521,767	275,626,634	37.4%	367,695,133	62.6%	367,695,133	62.6%	367,695,133	62.6%	367,695,133	62.6%	367,695,133	62.6%
		Construction Total	1,045,672,779	1,528,985,480	2,577,625,559	1,730,253,559	51.7%	1,247,462,700	48.3%	1,247,462,700	48.3%	1,247,462,700	48.3%	1,247,462,700	48.3%	1,247,462,700	48.3%

* Includes HEU Transagency Implementation, Global Initiatives for Proliferation Prevention, and Accelerated Highly Enriched Uranium Disposition

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Table 3 -- Commitment Status

Table 3 - Commitment Status		A		B		C	
Expense Type	Program / Construction Project Title	YTD Ending Unobligated Obligations	Total Unobligated Obligations	% Committed	Total Unobligated Obligations	% Uncommitted	UJA
Operating	Nonproliferation and Verification Research and Development	65,672,053	31,716,456	48.3%	33,955,597	51.7%	
	Elimination of Weapons Grade Plutonium Production	199,658,079	198,861,096	99.6%	198,861,096	99.6%	0.4%
	International Nuclear Materials Production and Cooperation	608,212,343	458,896,456	75.4%	149,405,887	24.6%	
	U.S. Surplus Fissile Materials Disposition	104,192,576	55,754,557	53.5%	48,438,019	46.5%	
	Russian Surplus Fissile Materials Disposition	77,892,168	58,383,989	75.0%	19,508,179	25.0%	
	Global Threat Reduction Initiative	1,242,402,760	883,312,831	71.2%	359,089,929	28.8%	
Construction	Nonproliferation and Verification Research and Development						
	060110100, NPI, National Security Laboratory, PNNL		0	0.0%		0.0%	
	079205000, Physical Sciences Laboratory, PNNL	3,435,864	127,830	3.7%	3,307,934	96.3%	
	U.S. Surplus Fissile Materials Disposition	4,220,000	0	0.0%	4,220,000	100.0%	
	90D141010, Plutonium Conversion Facility, Savannah River, SC	23,156,578	19,566,696	84.5%	3,589,882	15.5%	
	90D141020, Waste Solidification Building, Savannah River, SC	5,398,301	71,413	1.3%	5,326,888	98.7%	
	90D141030, Mixed Oxide Fuel Fabrication Facility, Savannah River, SC	331,573,579	309,319,363	93.3%	22,254,216	6.7%	
	011940700, Highly Enriched Uranium (HEU) Blank Bomb, Savannah River, SC	387,695,133	329,985,342	85.1%	57,709,791	14.9%	
	Construction Total						
		1,610,097,833	1,213,398,173	75.4%	396,699,660	24.6%	

* Includes HEU Transparency Implementation, Global Initiatives for Proliferation Prevention, and Accelerated Highly Enriched Uranium Disposition

Table 4 -- Cost + Commitment Status

Table 2 - Cost + Commitment Status										
Expense Type	Program	Construction Project Title	Costing Authority (Funds)	YTD Cost	Total Unobligated Obligations	Current Obligations + Commitments	% Current Costs	Total Unobligated Obligations	% Uncommitted	
Operating	Nonproliferation and Verification Research and Development	Elimination of Weapons Grade Plutonium Production	341,413,261	225,941,208	31,716,456	307,657,664	98.1%	33,955,597	9.9%	
		International Nuclear Materials Production and Cooperation	424,431,947	223,723,918	198,861,696	42,655,613	99.8%	776,134	0.2%	
		U.S. Surplus Fissile Materials Disposition	240,678,401	153,383,642	31,900,377	185,264,019	77.0%	55,414,382	23.0%	
		U.S. Surplus Fissile Materials Disposition	1,201,577,749	578,855,085	15,456,456	594,366,541	49.4%	1,496,765,652	12.0%	
		Russian Surplus Fissile Materials Disposition	87,235,089	172,722,589	55,754,557	228,477,146	82.5%	48,438,019	12.5%	
		Global Threat Reduction Initiative	177,240,914	9,338,506	28,383,589	37,722,495	43.2%	49,508,179	56.8%	
		Operating Total								
			2,522,026,859	1,330,253,559	884,312,831	2,414,586,390	86.7%	359,038,470	13.3%	
Construction	Nonproliferation and Verification Research and Development	060110100, Nonproliferation And International Security Center (NISCL), LANL	15,878,632	0	0	127,930	0	0.0%	0	0.0%
		079205000, Physical Sciences Laboratory, PNL	4,220,000	12,392,768	127,930	12,520,698	0.0%	3,307,934	26.9%	
		U.S. Surplus Fissile Materials Disposition	43,298,176	18,631,509	19,566,696	38,198,204	91.6%	3,589,882	8.4%	
		90D141010, Plutonium Conversion Facility, Savannah River, SC	35,502,831	10,194,320	71,413	10,265,733	66.2%	12,236,888	33.8%	
		90D141020, Waste Solidification Building, Savannah River, SC	508,981,106	177,407,638	309,319,363	486,726,941	95.6%	22,254,165	4.4%	
		011940700, Highly Enriched Uranium (HEU) Blank Blank, Savannah River, SC	587,331,797	213,656,634	339,085,742	545,711,978	93.4%	38,609,791	6.0%	
		Construction Total								
			1,509,882,193	1,213,398,173	2,763,280,366	87.4%	396,699,660	12.6%		

* Includes HEU Transparency Implementation, Global Initiatives for Proliferation Prevention, and Accelerated Highly Enriched Uranium Disposition

NN CARRYOVER

Chairman Visclosky. Of that carryover amount, how much has been obligated in the first two quarters of this fiscal year.

Mr. Tobey. At the end of FY2009, the Office of Defense Nuclear Nonproliferation had \$275.6 million unobligated. \$229.9 million was in the U.S. MOX program and \$43.3 million was in the Russian MOX program. The remaining \$2.4 million in funds, outside of MOX, was obligated in early FY2008.

Hearing Date: April 3, 2008/Question 40

NONPROLIFERATION RISKS FROM REPROCESSING ACTIVITIES

Chairman Visclosky. In the larger scheme of all the different proliferation risks around the world, how would you rank the relative risk of the plutonium separated by reprocessing activities in France and the United Kingdom?

Mr. Tobey. Proliferation risk includes two major categories: diversion of civilian nuclear materials by the state and terrorism involving non-state actors. As acknowledged nuclear weapon states, possession by the UK and France of civil stocks of plutonium is less of a concern from the standpoint of state proliferation than for issues associated with nuclear terrorism. The United States has periodically assessed proliferation risks associated with civil reprocessing in both countries, most recently in 1995 in association with the extension of U.S. programmatic approval for reprocessing U.S.-origin spent fuel at the Sellafield and La Hague facilities. These assessments consider safeguards, physical protection, and national policies, such as the adherence to the International Plutonium Management Guidelines and the GNEP Statement of Principles, which includes a commitment to pursue reprocessing technologies that avoid separation of pure plutonium and that help draw-down existing civil plutonium inventories. While nuclear security cooperation remains a higher priority for Russia than for France or the UK, we consult with both governments to ensure that all nuclear materials that can be used in a nuclear weapon or other nuclear explosive device are effectively safeguarded and protected.

Hearing Date: April 3, 2008/Question 41

NONPROLIFERATION RISKS FROM REPROCESSING ACTIVITIES

Chairman Visclosky. What is the nonproliferation risk of this weapons-usable material in these countries relative to the same material in other countries, and also relative to other special nuclear materials and dirty bomb materials?

Mr. Tobey. Through periodic consultations and site visits, we are confident that the levels of protection afforded by France and the UK for civilian materials directly usable in weapons is comparable to that applied to their defense weapons materials. In non-nuclear-weapon states that separate civil plutonium (e.g., Japan), there is a higher burden to demonstrate the adequacy of IAEA safeguards and we have worked with Japan to ensure that such safeguards are effective. For all countries, the effectiveness of national safeguards and security measures are of paramount importance to address sub-national risks. The highest levels of security are reserved for those materials, and facilities that contain, produce, or use such materials, that are directly usable in a nuclear explosive device, because of the greater consequences of theft and misuse of such materials.

While the consequences from the use of other radioactive materials in a radiological dispersal device (RDD) or dirty bomb are of a much lower magnitude than a WMD, we believe the possibility of use of an RDD by terrorists is higher, because of the comparative simplicity of the device and the availability of less secure radioactive materials around the world that could be used in an RDD. Moreover, the consequences could be substantial.

For this reason, NNSA has been working with other federal agencies, the International Atomic Energy Agency, and other countries to secure and recover nuclear and other radioactive materials within the civilian sector that pose a security concern. Our objective is to implement security upgrades at high risk sites around the world and to ensure the sustainability of these upgrades over the long term.

President Bush recognized the proliferation risk posed by the spread of reprocessing technology in his February 11, 2004 speech at the National Defense University.

NONPROLIFERATION RISKS FROM REPROCESSING ACTIVITIES

Chairman Visclosky. From a nonproliferation standpoint, is the real concern the materials, the reprocessing activities that produce those materials, or the countries that are running the activities that produce the materials?

Mr. Tobey. All are legitimate concerns. As noted above, President Bush recognized the proliferation danger posed by the spread of reprocessing technology in his February 11, 2004 speech at the National Defense University. Clearly, the highest concern would be countries that have questionable nonproliferation credentials and possess weapons-usable materials or facilities for their production. Possession of materials poses a more immediate concern than possession of a reprocessing facility, but this distinction is largely theoretical given the potential for a state to “break out” of its Non-Proliferation Treaty or IAEA safeguards commitments. Nevertheless, because these facilities can serve peaceful or military ends, the United States has advanced a number of high-level initiatives designed to limit the further spread of sensitive nuclear fuel cycle technologies and, for states interested in pursuing nuclear power, to provide attractive alternatives to indigenous enrichment or reprocessing. This includes tighter controls of technology transfers in the Nuclear Suppliers Group, a multinational fuel assurance mechanism involving the IAEA, reliable fuel services through the Global Nuclear Energy Partnership, and the Bush-Putin initiative on nuclear energy and nonproliferation.

Hearing Date: April 3, 2008/Question 43

COMPLETION OF PROJECTS AND CLOSURE OF NN OFFICES

Chairman Visclosky. Mr. Tobey, do you have any activities or projects that will be completed or nearing completion in Fiscal Year 2009?

Tobey. We have two priority nonproliferation activities that will either be completed or nearing completion in FY 2009. One activity is the completion of the nuclear security cooperation with Russia under the 2005 Bratislava Agreement. This includes priority nuclear security upgrades, best practices and nuclear security culture development work, research reactor cooperation and related Russian-origin fuel return cooperation, and emergency response activities, which President Bush and President Putin agreed would be complete by the end of calendar year 2008.

Also, our Elimination of Weapons Grade Plutonium Production program, EWGPP, will be nearing completion. The project will shut down the last three Russian plutonium producing reactors; two at Seversk and one at Zheleznogorsk. We already shut down one of the Seversk reactors on April 20, 2008 and the other will be shut down in June 2008. The Zheleznogorsk reactor will be shutdown by 2010—if not, as we hope, sooner in 2009.

Hearing Date: April 3, 2008/Question 44

COMPLETION OF PROJECTS AND CLOSURE OF NN OFFICES

Chairman Visclosky. I know the Elimination of Weapons-Grade Plutonium Production program is nearing the end in Russia. Do you have an office in Russia that you will close once this program is completed?

Mr. Tobey: The Elimination of Weapons-Grade Plutonium Production (EWGPP) program does not maintain a separate office. It has but one federal employee in Russia--- the Resident Officer for Construction as mandated by Public Law 108-136, "Requirements for On-Site Managers", who works out of the Department of Energy (DOE)-Moscow office. He will return to the United States upon completion of the Elimination of Weapons-Grade Plutonium Production program.

Hearing Date: April 2, 2008/Question 45

MOX CONSTRUCTION PROJECT

Chairman Visclosky. The FY 2008 Omnibus Appropriations Bill required Defense Nuclear Nonproliferation to transition the management of two construction projects to other offices. Specifically, the bill required that management of the Mixed-Oxide Fuel Fabrication Facility be transferred to DOE's Office of Nuclear Energy and the Pit Disassembly and Conversion Facility be transferred to NNSA's Office of Defense Programs. We understand that Defense Nuclear Nonproliferation has been developing memoranda of understanding with the Office of Nuclear Energy and Defense Programs that would allow for continued participation in program management.

What is the status of these agreements?

Mr. Tobey. As to the MOX Fuel Fabrication Facility construction project, the DOE Office of Nuclear Energy and the NNSA Office of Defense Nuclear Nonproliferation entered into a Memorandum of Agreement under the Economy Act whereby the NNSA Office of Fissile Materials Disposition manages the project on behalf of the Office of Nuclear Energy while the Office of the General Counsel analyzed whether the Consolidated Appropriations Act, 2008, effectuated a transfer of program responsibility for this project.

As to the PDCF construction project and the associated Waste Solidification Building, the Administrator has transferred this project (including its personnel and funding) to the Office of Defense Programs

Hearing Date/Question Number(s): April 3, 2008/Question 46a

MOX CONSTRUCTION PROJECT

Chairman Visclosky. Please describe any continued involvement that Defense Nuclear Nonproliferation may have in management of these two construction projects and justify why Defense Nuclear Nonproliferation believes its needs to continue to be involved.

Mr. Tobey. Under the terms of the Memorandum of Agreement between the Office of Nuclear Energy and the Office of Defense Nuclear Nonproliferation, the Office of Fissile Materials Disposition is managing the MOX construction project on behalf of the Office of Nuclear Energy. These management services include: administering the MOX Fuel Fabrication Facility and Reactor Irradiation Services contract; continuing the design process; overseeing construction activities; procuring engineered process equipment; and constructing the Process Building and the glovebox assembly building.

The Office of Defense Nuclear Nonproliferation remains involved in this project because it has the project management expertise and experience necessary to continue progress on this important construction project, as required by the Consolidated Appropriations Act, 2008.

Hearing Date/Question Number(s): April 3, 2008/Question 46b

MOX CONSTRUCTION PROJECT

Chairman Visclosky. Who does the management team at the Savannah River Site report to — to you or to Assistant Secretary Spurgeon?

Mr. Tobey. The management team at the Savannah River Site reports to me. I have a responsibility, in managing the MOX construction project in accordance with the Memorandum of Agreement between the Office of Nuclear Energy and the Office of Defense Nuclear Nonproliferation, to ensure that the project is well managed and the funds are well spent. Assistant Secretary Spurgeon also has a fiduciary responsibility to see that the funds are spent well.

Hearing Date/Question Number(s): April 3, 2008/Question 46c

MOX CONSTRUCTION PROJECT

Chairman Visclosky. Who does the contractor that is designing and building the MOX plant report to — to you or to Assistant Secretary Spurgeon?

Mr. Tobey. The contractor that is designing and building the MOX plant reports to me. I have a responsibility, in managing the MOX construction project in accordance with the Memorandum of Agreement between the Office of Nuclear Energy and the Office of Defense Nuclear Nonproliferation, to ensure that the project is well managed and the funds are well spent. Assistant Secretary Spurgeon also has a fiduciary responsibility to see that the funds are spent well.

Hearing Date/Question Number(s): April 3, 2008/Question 46d

ENGAGEMENT OF FOREIGN WEAPONS SCIENTISTS

Chairman Visclosky. Please describe specifically the NNSA's plans to engage former weapons scientists from Libya and Iraq. What criteria do you use to determine which Libyan and Iraqi weapons scientists qualify for such U.S. assistance? Are you only looking at scientists involved in those countries' nuclear weapons efforts, or are you also including individuals involved in efforts to develop other weapons of mass destruction?

Mr. Tobey. NNSA applies three major criteria to assess where and whom we engage: education, experience, and expertise of the scientists and technicians in these countries. While many scientists have a nuclear background, we do not limit projects to that group. In Libya, we primarily engage scientists from Tajura, using the scientific skills in physics, chemistry, engineering, seismology, programming, modeling and machining. In Iraq, GIPP funds small-scale civilian projects, training and workshops that contribute to reconstruction efforts. Topics include material science, agriculture, radiation safety and water management. For both countries, we work with U.S. Government efforts coordinated by the State Department.

Hearing Date: April 3, 2008/Question 47

RESEARCH REACTOR CONVERSION

Chairman Visclosky. The NNSA is engaged in a program to convert research reactors that use highly enriched uranium, which has weapons applications, to use low enriched uranium. Through the end of last year, you have apparently converted a total of 55 reactors, with only a handful left to go. When will this program be completed with all at-risk research reactors converted?

Mr. Tobey. Presently the NNSA's Office of Global Threat Reduction has completed the conversion of 56 research reactors worldwide. The plan is to complete the conversion of all 129 reactors by 2018.

Hearing Date: April 2, 2008/Question 48

COMPETITION AND EXECUTION OF NONPROLIFERATION WORK

Chairman Visclosky. How do you determine which entities will execute the various activities within your nonproliferation program? In other words, how do decide which work will be done by NNSA labs, which by other DOE labs, which by the private sector, and which by universities? The Broad Agency Announcement is one vehicle that allows for a head-to-head competition to select the most cost-effective solution, but its use within DOE is rare.

Mr. Tobey. We consider the most cost-effective solution appropriate to satisfying mission need when determining which entities will execute our various activities. Sometimes this is within the DOE laboratory network and, less often, it requires outside resources. However, we remain committed to meeting mission objectives on-time, within schedule, and at the lowest possible cost.

Hearing Date: April 3, 2008/Question 49

COMPETITION AND EXECUTION OF NONPROLIFERATION WORK

Chairman Visclosky. The Omnibus provided direction to conduct a competitive solicitation open to all federal and non-federal entities, I understand that you have issued the solicitation, something that other elements of DOE seem to have difficulties doing. Did you have any difficulties getting this solicitation out the door? Are there any lessons that other programs should learn?

Mr. Tobey. We have issued two such solicitations. One is for our Design, Integration, Construction, Communication, and Engineering (known as the DICCE) acquisition, which will support our Second Line of Defense program. As part of this contract, the contractors will install sustainable radiation detection equipment (portal monitors and hand-held devices) and the necessary, accompanying communication systems in over 30 foreign countries at up to 270 international land border crossings, seaports and airports. The second area of work includes three contracts to support work to remove and secure vulnerable, at-risk nuclear and radiological materials around the world through NNSA's Global Threat Reduction Initiative (GTRI). Both of these solicitations have resulted in contract awards to multiple small businesses.

There were a number of lessons learned during these solicitations. Chief among them is that these solicitations take time and it is important to start early in order to have contractors in place by program deadlines. NNSA has implemented a number of measures to streamline these processes, including the use of Integrated Project Teams and expedited review process. These measures were applied to good effect on these solicitations and NNSA expects to continue to further develop these approaches.

PHYSICAL SCIENCES BUILDING AT PACIFIC NORTHWEST NATIONAL
LABORATORY (PNNL)

Chairman Visclosky. What is the status of the Physical Sciences Building at PNNL? How much funding will it require from the NNSA to complete this facility, and what is the schedule for its completion?

Mr. Tobey. As the steward for PNNL, the DOE Office of Science leads a tripartite construction funding arrangement between the Office of Science, NNSA, and the Department of Homeland Security.

Currently, the facility is approaching milestone CD-3b (start of the construction for the new Physical Sciences Facility - PSF). The initial bid for this construction was higher than the government estimate, but the Office of Science was able to negotiate with the contractor to reduce the price by decreasing scope in one existing building scheduled for renovation (Building 325) and eliminating items such as landscaping and paving associated with the new PSF. The Office of Science expects to approve milestone CD-3b in the near future, and expects to award the new construction contract by May. Given these two parameters, the project will proceed on schedule to vacate and close out those facilities being decommissioned in the Hanford 300 Area by 2011.

Out-year continuation for the project is dependent on DHS-required funding. Currently, DHS does not have its share of agreed funding in either the FY2009 request to Congress or projected in its FY2010 request. Without this funding, further reductions in scope may impact the successful completion of the project.

NNSA budget requirements to meet the NNSA share of the funding commitment are: FY 2009: \$13.147M requested; FY 2010 \$3.625 expected; FY 2011 \$1.689 expected

Hearing Date: April 3, 2008/Question 51

USE OF CORPS OF ENGINEERS AS CONSTRUCTION MANAGER FOR PDCF

Chairman Visclosky. When the MOX and PDCF projects were still under your authority, prior to their transfer to other offices in the FY2008 Omnibus Appropriations Act, did you have any involvement in the decision to employ the Corps of Engineers as the construction manager for the PDCF project? If so, please explain your reasoning for involving the Corps, and your understanding of the Corps' qualifications to manage work involving plutonium and weapons pits.

Mr. Tobey. Yes, I was involved in NNSA's decision to hire the Corps of Engineers as the construction manager for the PDCF project. As part of NNSA's decision-making process, we considered a variety of criteria including: experience and capability managing large-scale complex construction projects; access to worldwide technical and engineering resources; ability to respond to NNSA's needs for construction management services in an expeditious manner; and ability to provide sufficient expertise and dedicated staff to oversee a project of this size and complexity.

Given that there have been very few major nuclear construction projects undertaken in the United States during the last twenty years, there are very few firms possessing this type of specific nuclear construction management experience. We felt it was important to hire an organization focused and experienced in large-scale complex construction, which when combined with the nuclear material processing experience of NNSA and the Savannah River Site, would provide the best chance of success. In addition, the Corps has committed to take significant steps to ensure that it hires experienced nuclear personnel to work beside and mentor experienced Corps construction personnel.

STORAGE AND DISPOSITION OF FOREIGN MATERIALS

Chairman Visclosky. When you remove materials of proliferation concern from overseas and bring them to the United States, where are they stored? How is the cost of that storage, and the attendant security requirements, funded? Is it paid out of your Nonproliferation budget, or is it assumed by the host DOE site?

Mr. Tobey. U.S.-origin spent nuclear fuel returned from foreign countries is sent to either the DOE Savannah River Site (SRS) or the Idaho National Laboratory (INL). SRS receives approximately ninety five percent (95%) of this fuel. Once the fuel is delivered to SRS, DOE's Office of Environmental Management (EM) assumes responsibility for interim storage, management and ultimate disposition of this material. Foreign research reactor operators that reside in countries with high-income economy countries pay a fee to EM based on the quantity of the fuel being returned to help offset the cost of storage and disposition. EM then determines whether to use the fee for interim storage or ultimate disposition. EM provides for additional funds for interim storage and all other related interim storage costs, including physical security at the storage facility as well as costs at the receiving facility for preparations for receipt of the foreign fuel.

Some small quantities of highly enriched uranium (HEU) fuel that are unirradiated or slightly irradiated are received at NNSA's Y-12 National Nuclear Security Complex. This material is downblended to low enriched uranium (LEU) at the LEU manufacture line at the Y-12 Complex.

Hearing Date: April 2, 2008/Question 53

STORAGE AND DISPOSITION OF FOREIGN MATERIALS

Chairman Visclosky. Will most of this material be destined for the Yucca Mountain repository, or is there another disposition path? Who will pay for the cost of disposing of this material – your program, or some other part of DOE? Please provide for the record an inventory of this foreign material being stored in the U.S. and the schedule date for shipment(s) to the Yucca Mountain repository.

Mr. Tobey. DOE's Office of Environmental Management (EM) is planning to process some of the U.S.-origin fuel returned from research reactors overseas (which is similar to DOE-owned fuel) in the H-Canyon facilities located at the Savannah River Site, subject to completion of appropriate National Environmental Policy Act review, with an estimated completion date of 2019. The highly enriched uranium will be down-blended to low enriched uranium to be sold to an end user for fabrication of fuel for commercial nuclear reactors. The remaining fuel is planned to be packaged in standard canisters at the Idaho National Laboratory for disposal at Yucca Mountain. EM is currently responsible for the cost of interim storage and ultimate disposition. As I indicated in my response to the last question, foreign research reactor operators that reside in countries with high-income economy countries pay a fee to EM based on the quantity of the fuel being returned to help offset the cost of storage and disposition.

As of April 2008, GTRI's U.S.-origin foreign research reactor fuel return program has returned 8,078 fuel assemblies totaling 3.97 metric tons of uranium.

Hearing Date: April 2, 2008/Question 54

INTERNATIONAL NUCLEAR SAFEGUARDS AND ENGAGEMENT PROGRAM

Chairman Visclosky. Mr. Tobey, the International Nuclear Safeguards and Engagement program is requesting \$11 million in FY 2009, to “work with advanced fuel cycle partners to develop and implement next-generation safeguards technology... for advanced reprocessing facilities and fast reactor fuel cycles.”

What countries have, or are planning advanced reprocessing facilities?

Mr. Tobey. Six countries have reprocessing facilities – the United States, the UK, France, Russia, China, and Japan. The United States, France, and Japan are conducting research and development on more advanced reprocessing technologies.

Chairman Visclosky. What countries are you working with on fast reactor safeguards?

Mr. Tobey. The International Nuclear Safeguards and Engagement Program (INSEP) currently is engaged with Japan on the development and implementation of advanced safeguards for fast reactors. In FY09, we plan to expand our cooperation on safeguards for fast reactors to other countries, including possibly South Korea, Kazakhstan, and France. These efforts are to ensure that reactor designs allow for effective and efficient application of international safeguards.

Chairman Visclosky. What are the accomplishments for this program for the past 7 years? What has been successfully developed and put into use?

Mr. Tobey. INSEP’s mission is to strengthen the international nuclear safeguards regime and promote secure and sustainable nuclear infrastructure. The program achieves its mission by cooperating internationally to develop and implement advanced safeguards technologies across the nuclear fuel cycle. INSEP has developed and successfully deployed dozens of safeguards technologies over the past seven years that have been accepted for routine use by the IAEA. The program is currently engaged in 17 countries, trains an average of 300-350 people per year and transfers 15-20 technologies per year to its international partners.

INSEP’s mission is to strengthen the international nuclear safeguards regime and promote secure and sustainable nuclear infrastructure. INSEP safeguards and infrastructure activities address the entire spectrum of countries involved in nuclear energy applications, from those just starting out on the path of nuclear development, such as Indonesia and Algeria, to highly advanced nuclear fuel cycle countries like Japan and France. The INSEP budget request is not aimed solely at safeguards for fast reactors or advanced reprocessing facilities. This is but one of the areas where INSEP intends to develop and implement advanced safeguards technologies. INSEP also will expand collaborations with established international partners including China, France and Japan, and develop new partnerships with countries in Asia.

INSEP has developed and successfully deployed a variety of safeguards technologies across the entire nuclear fuel cycle in the past seven years. Examples include reprocessing waste stream safeguards where INSEP has developed and deployed safeguards measurements for waste streams exiting a reprocessing facility (high- and low-activity, liquid- and solid-wastes). Those hardware installations continue to be used by the IAEA and provide a technical base for the development of waste measurement at subsequent reprocessing facility implementations by the IAEA. INSEP also has sponsored the development and implementation of unattended and remote monitoring, a significant improvement to the timeliness of safeguards data transfer and to the efficiency of safeguards measurement that has been adopted by the IAEA as an international standard.

In fast reactor safeguards, INSEP has developed and implemented improvements in spent fuel simulation and modeling for safeguards, technologies to re-verify irradiated fuel assemblies, and fast reactor fresh fuel verification. In enrichment facilities, INSEP has developed and implemented the only technology accepted by the IAEA for routine safeguards measurement of material in centrifugal enrichment cascade halls. INSEP has developed and implemented a variety of spent fuel measurement and analysis techniques that have been adopted as international standards.

The nuclear infrastructure engagement component of INSEP includes a wide range of activities with foreign partners, such as Argentina, Mexico, Peru, Romania, Egypt, Libya, Morocco, Egypt, Indonesia, and Thailand. A sampling of INSEP accomplishments includes assistance in: national legislation and establishment of regulations for effective development of nuclear power; establishment and improvement of state systems of nuclear material accounting and control; establishment of environmental monitoring capabilities; and development of Quality Control/Quality Assurance capabilities. INSEP has provided training in use of computer codes to assist in research reactor operation, as well as in emergency management and modeling for nuclear research reactor activities. INSEP also has evaluated and updated capabilities in radiation safety, radiation control, radiation dosimetry, and health physics.

Hearing Date: April 3, 2008/Question 55

TREATIES AND AGREEMENTS

Chairman Visclosky. Mr. Tobey, there is a substantial increase to “Treaties and Agreements”, about +\$12 million. This increase is explained as “strengthening international safeguards,” and “in support of the Department’s implementation of high-level nonproliferation initiatives such as GNEP.”

Please explain what specifically the +\$12M increase is for.

Mr. Tobey. The approximate \$12 million increase is for activities in support of the Next Generation Safeguards Initiative. A detailed description of NGSI and planned activities for FY09 is provided in our response to Question 21.

Chairman Visclosky. How does this work for “international safeguards” differ from International Nuclear Safeguards and Engagement Program, with proposed finding at \$11 million in FY 2009?

Mr. Tobey. The International Nuclear Safeguards and Engagement Program (INSEP) represents one avenue for strengthening IAEA safeguards as envisioned through the Next Generation Safeguards Initiative (NGSI), especially in the area of international cooperation, which we see as major thrust of NGSI. INSEP complements other safeguards programs in the Office of Nonproliferation and International Security, including (1) the nuclear safeguards policy program, which focuses on implementation of IAEA safeguards in the United States and concepts and approaches to the application of IAEA safeguards globally, and (2) the nuclear noncompliance verification program, which develops safeguards tools, approaches, and technology applications to meet evolving IAEA needs and chairs the U.S. interagency Subgroup on Safeguards Technical Support to the IAEA.

NGSI will leverage and build upon this foundation for safeguards-related work, with a focus on recommending and developing new technologies, approaches, and partnerships required to strengthen international safeguards. .

Hearing Date: April 3, 2008/Question 56

ELIMINATION OF WEAPONS-GRADE PLUTONIUM PRODUCTION

Chairman Visclosky. The Elimination of Weapons-Grade Plutonium production program is to enable the Russian Federation to permanently cease production of weapons-grade plutonium by replacing the heat and electricity produced by plutonium-producing reactors allowing the reactors to be shut down.

I'd like to follow-up on the progress of this program.

According to the budget documents, the Seversk project is scheduled for completion by the end of December 2008. Have the 2 Seversk plutonium production reactors been shut-down now? What does "shut-down" mean – can the reactors be started up again? If they are not shut-down, is weapons-grade material currently being produced?

Mr. Tobey. The first of the two Seversk reactors was shut down on April 20, 2008. This is a significant nonproliferation milestone and is an important step toward permanent, irreversible shutdown.

During a recent meeting of the U.S.-Russian Reactor Shutdown Working Group, Russia announced it would shut down the second reactor June 5, 2008.

Shut down mandates that the reactors will cease operation, fuel will not be ordered for the heating season, and measures will be taken to ensure that shut down is irreversible. The reactors will transfer to the permanent monitoring regime as provided in Annex III of the U.S.-Russia Plutonium Production Reactor Agreement (PPRA). Annex III provides procedures for compliance with the provisions of PPRA.

Weapons-grade plutonium is produced as long as the reactors continue to operate. However, in accordance with Article IV of the PPRA Agreement, plutonium produced after entry into force of the Agreement shall not be used in nuclear weapons.

Chairman Visclosky. The Zheleznogorsk plutonium production reactor will be shutdown and replaced with a fossil-fuel facility. Is this plutonium production reactor shut-down now? When will the fossil-fuel plant be complete and operational?

Mr. Tobey. The reactor at Zheleznogorsk is still operating, providing necessary heat and electricity to the local community.

The fossil plant in Zheleznogorsk is expected to be complete and operational no later than December 2010, at which time the reactor will be shut down.

Chairman Visclosky. After the reactors are permanently shut down, will Russia have any capability to produce weapons grade plutonium in reactors?

Mr. Tobey: No, the Seversk and Zheleznogorsk reactors are the last three weapons-grade plutonium production reactors in Russia. According to the terms of the PPRA Agreement, these reactors will permanently cease operation, will remain in a non-operating status, and are subject to the monitoring provisions of Annex III of the PPRA.

Chairman Visclosky. How much has been spent on the EWGPP program to date? What is the cost of the construction of the new fossil fuel plant?

Mr. Tobey: The EWGPP program has spent \$284M for Seversk and \$182M for Zheleznogorsk to date. Completion of the program is estimated to require \$387.3M for Seversk and \$570.5M for Zheleznogorsk

Hearing Date: April 2, 2008/Question 57

SECOND LINE OF DEFENSE

Chairman Visclosky. The Second Line of Defense program deploys radiation detection equipment, training and technical support at strategic transit and international road and rail crossing points and at air and seaports in Russia and around the world. Does the U.S. manufacture the detection equipment used in the Second Line of Defense Program?

Mr. Tobey. The Second Line of Defense (SLD) Program primarily deploys radiation detection equipment that is manufactured in the U.S., but does deploy some equipment that is manufactured abroad. For example, our primary supplier of radiation portal monitors is TSA. However, for certain countries, including Russia and several other former Soviet countries, the SLD Program deploys Russian-manufactured equipment that is easier to field and maintain in these environments. At the request of the Chinese government, we are deploying Chinese-manufactured equipment in mainland China. The program tests all equipment that it deploys to ensure that it meets program standards.

Chairman Visclosky. I understand there is a lot of international negotiations and agreements to implement this program – and training in the use of equipment. What kind of follow-up does your program provide to ensure that 1) the equipment is being used and 2) broken equipment is replaced. Do you actively go back to countries where you installed systems 2 or 3 years ago for a check-up?

Mr. Tobey. The SLD Program supports the partner country with the necessary guidance, technical expertise, diagnostic tools and interim funding to establish partner country capacity to sustain the operation of the equipment. There are regular assessments of the state of equipment during the typical three-year transition period after which the partner country assumes full system responsibility. Maintenance contract reporting, independent field data analysis, and direct observations at installation sites provide the SLD Program the required assurances that the equipment is being operated according to design and properly maintained.

The SLD Program will typically provide the interim funding and contracting support for equipment maintenance and repair for this period of three years or longer if necessary. In addition to ensuring that equipment is maintained and repaired, the maintenance contractor is required to provide, along with the invoices, the preventative maintenance and repair reporting that can provide immediate insight into the use and state of equipment at a particular location. The reporting period is typically on a quarterly basis though it can be done on a monthly basis if necessary.

The equipment itself contains a data logging function that provides quantitative measures of operations and equipment performance. In cooperation with the country where it is made available, the SLD Program performs analysis and reports the findings on the logged data on a quarterly basis. Through this analysis, a faulty radiation detector component can be identified as well as operational deficiencies such as traffic control.

Finally, the SLD Program also employs periodic, direct, on-site evaluation of equipment and operations informed by information from the maintenance reporting and the data analysis. SLD personnel help conduct basic equipment checks and an overall operational evaluation that incorporates the composite performance of equipment, processes, and people. The findings provide a quantitative measure of operational readiness at a location, documenting faulty equipment, inadequate procedures, and training deficiencies. The frequency of these direct site assessments is typically two to four times per year, diminishing as the assessment responsibility is assumed by the partner country over the transition period. Clearly, for locations experiencing chronic performance issues, the SLD Program remains engaged appropriately. For those countries who are fully and successfully implementing the program, the SLD Program is planning to engage them in sustainability activities across their region.

For SLD Program work in Russia, where the Russian Federal Customs Service (FCS) is paying the costs to equip half of the approximately 350 border crossings, the FCS will assume responsibility for the maintenance of all radiation detection equipment deployed by both FCS and NNSA under this program by the end of 2013. Up to now, each partner has been providing maintenance for the sites they equipped. In accordance with this sustainability plan, FCS will continue training customs inspectors, provide centralized control of equipment, and conduct equipment maintenance, repair, and performance testing.

Chairman Visclosky. Is there an “end” to the list of countries you plan to engage with? For example, the Materials Protection Control and Accounting program – which deals with security upgrades at Russian sites – has program completion dates.

Tobey. The SLD program, including both the Core Program and the Megaports Initiative, has a lifecycle plan which includes a list of countries and ports along with estimated program completion dates. The Megaports Initiative plans to complete 75 Ports by the end of 2013 and the Core Program plans to complete 32 countries by the end of 2014. Sustainability work may, of course, extend beyond these dates. It is also worth noting that new countries or ports that are not now identified as priorities may be included in the program, as world conditions change or as new information becomes available.

Hearing Date: April 3, 2008/Question 58

THURSDAY, APRIL 10, 2008.

**DEPARTMENT OF ENERGY—NUCLEAR ENERGY AND
NUCLEAR WASTE**

WITNESSES

DENNIS R. SPURGEON, ASSISTANT SECRETARY FOR NUCLEAR ENERGY, U.S. DEPARTMENT OF ENERGY
EDWARD F. SPROAT, III, DIRECTOR, OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT, U.S. DEPARTMENT OF ENERGY

CHAIRMAN VISCLOSKY'S OPENING STATEMENT

Mr. VISCLOSKY. The subcommittee will come to order. The Subcommittee on Energy and Water Development meets today for the 10th and final hearing on the administration's proposed fiscal year 2009 budget request for programs under this subcommittee's jurisdiction. As such, I would like to point out it is also the Ranking Minority Member's last subcommittee budget hearing, as Mr. Hobson—it will be a joy to some, I am sure, to hear—will be retiring at the end of this term. It is somewhat poetic that the hearing happens to be on nuclear energy and Yucca Mountain, two programs Mr. Hobson has championed during his tenure as Chairman, and he continues to do so as Ranking Member.

Mr. Hobson took initiative to support the expansion of nuclear power in this country. There is no nuclear interest in his district in Ohio. Mr. Hobson has pursued expanding nuclear energy in this country because it is a clean source of energy and domestically generated for energy security, both of which benefit the welfare of our country.

Mr. Hobson has been a tireless supporter of Yucca Mountain, recognizing that the growth of nuclear energy is dependent on having a place for the waste. It would have been easy for him to use the Yucca Mountain budget request to fund other activities, given the opposition in the Senate to it. Mr. Hobson believes in good policy over political expediency and has remained firmly committed to the project.

More generally, I would also point out that we all serve on the Energy and Water Subcommittee. Water is vitally important today, and I believe it is one of the two great natural resource issues of this century. During my tenure on this subcommittee, we have tended to be the water subcommittee, sublimating to a large degree our energy responsibilities to the other body in conference. That changed under Mr. Hobson's chairmanship. While the gentleman from Ohio led the fight for financial and project management reform within the Army Corps to maximize its efficiency and expand—and expend the taxpayers' dollars more wisely, I am most struck that in all my years on this subcommittee, he made us relevant as a leader of the energy subcommittee.

Five years ago, instead of following past practice and generally ceding to the other body for additional water resources, Mr. Hobson engaged all of us in a conference that resulted in a wiser, more balanced energy policy, one that led to the greater benefit of the American people.

Our bill in fiscal year 2004 was a far better product and moved energy policy in a positive direction because Dave Hobson chaired this subcommittee. And in each of the successive years, we have built on that foundation he laid 5 years ago, and perhaps that was his 5-year plan.

He has led us well. He has taught us well. And in particular, he has taught me how to chair a subcommittee. He has been our best friend.

But now let me also move to the matters at hand, the fiscal year 2009 budget request for nuclear energy in the Office of Civilian Radioactive Waste Management. Today from the Department of Energy to discuss the fiscal year 2009 budget request, we have Mr. Dennis Spurgeon, Assistant Secretary for Nuclear Energy; and Mr. Edward Sproat, Director of the Office of Civilian Nuclear Waste. The budget request for the Office of Civilian Nuclear Waste is \$494.7 million, essentially identical to the fiscal year 2008 requested amount, but now for different purposes.

According to your testimony, Mr. Sproat, the license application for Yucca Mountain will be delivered to the Nuclear Regulatory Commission by June 30th of this year. I look forward to hearing about what you hope to fund for your office in 2009.

The fiscal year 2009 budget request for the Office of Nuclear Energy is \$853.6 million, which does not include the Mixed Oxide Fuel Fabrication Plant, counter to the direction of legislation passed by the United States Congress and signed by the President of the United States into law in December of 2007. Including the administration's request of \$487 million for MOX, the NE request is \$1.34 billion. This includes a request for \$301.5 million for the Global Nuclear Energy Partnership in its third iteration before the committee.

I also understand that Mr. Sproat and Mr. Spurgeon have been talking and discussing with other committees of Congress on the financing of spent nuclear fuel disposition. So I have a supposition that there is a fourth iteration in the works. We will have questions on all of these topics.

Gentlemen, welcome. And let me ask each of you to present a summary of your remarks. Your full written testimony will be entered into the record. After the hearing, we will have questions for you to answer for the record. And I would ask that you have responses back to us in 4 weeks.

But before recognizing you, Mr. Hobson, do you have an opening statement?

MR. HOBSON'S OPENING STATEMENT

Mr. HOBSON. Yes. Thank you, Mr. Chairman.

First of all, you caught me off guard on your comments. I very much appreciate those comments. So often in Congress, we say, "my good friend, the gentleman from so and so," and that just comes as a natural thing. However, in this case it has been true

with both of us. We became good friends on this committee. We really didn't know each other that well before we got on this committee together, although we have been on Defense. But we did work, I believe, as a team. I think we continue to work as a team. I think that is important, and we did, together, change some directions that were different on the committee.

I was talking to staff this morning in my office about this. This committee is more than just the House water committee and project or the House energy committee, depending on which part of the country you come from; that the committee has begun to look beyond our own parochial interests and into the interests of this country as a whole.

I personally believe that one of the reasons that we both looked at the energy side is that we both have children. I have some grandchildren; he hopes to have some grandchildren. We look at what is going to affect our country probably as strongly as anything else in this world. We have had the luxury of having had low-cost energy to spur our industrial and economic development in this country. That is changing. We also face climate change. As we look at those two things, I think we jointly believe in alternate types of energy. But in that mix, in order to have the biggest impact, we are going to have to have nuclear power, which is green. Part of that green is how we handle the waste.

I remember one of my first disappointments in this committee was dealing with the administration—I guess that is kind of an oxymoron—on Plan B out of OMB. And then I found out there was no Plan B in the funding of Yucca Mountain, much to my chagrin. After believing that there was a Plan B, I had been told so, that was the beginning of one of my really disappointing times in this whole arena. I am optimistic that in my lifetime we will see the reemergence of nuclear power and other sorts of energy sources so that this country will maintain its quality of life for which we have worked so hard over these years. We will not transfer all of our assets to other countries in the world simply because we are so dependent on foreign oil or natural gas.

I have enjoyed probably as much as anything I have done in my life, being on this committee and being Chairman of it for 4 years. I walked in, and Pete became my friend. I didn't know a lot about this committee. Maybe that was good in a way. And I didn't have any preconceptions, and I suddenly found out that the preconception of a lot of people was that this committee wasn't allowed to be involved in energy. We could play around with certain labs a little bit, and we could do water projects, but since I didn't have any water projects, I wasn't really interested in that.

The intellectual challenge of the energy side really intrigued me, and the way we found the Corps of Engineers in shambles also interested me. I think of the many efforts that we did together in the Corps, I think the Corps, to its credit, has continued to follow the efforts that we made to improve their systems. The beneficiary of that is certainly the taxpayer of this country, but the Corps itself is a better place today.

I wear their little hat. I have a little Corps of Engineers black hat that I wear—as a matter of fact, I wore it all the way to Florida when I drove my daughter down there this last weekend. It

was fun to wear it and watch people look and say, what is that old guy doing wearing that hat?

This committee has been fun, and everybody we have had on this committee has contributed in a very positive way. I know I have bought a lot of jewelry with Mr. Pastor and his wife over the years on a number of trips we went on. And John was on my previous committee. Chet was there. We have all worked together. I guess on our side, Jo Ann is the last of the Ohio Wesleyan people when I leave. And we have new members. Ken and I knew each other. We have traveled together. I am not going to tell about the trips with Mr. Rehberg and Simpson. Those are probably better not told. And Zach has been a good friend. I am the first guy that gave to Zach's—if you guys don't get mad about this, I was the first guy that gave to his campaign. We met a long time ago. The staff has been wonderful to deal with over the years and I appreciate all of their help.

Now I get to the part that they wrote for me, but I usually change it anyway. It is nice to see Mr. Spurgeon and Mr. Sproat today. My staff has been feeding me quotes from Yogi Berra to use in my hearing statements. Now, my baseball acumen is probably limited to throwing out a couple of opening pitches, but I did get them over the plate, and that is probably the closest thing—Yogi Berra didn't catch them, but that is about as close as I have. However, in today's hearing, there is a famous Yogi Berra saying that I think is probably relevant: The future ain't what it used to be. In the case of nuclear energy, a more accurate statement would be the future ain't what it ought to be.

Over the past 7½ years, this administration, in my opinion, had a golden opportunity to put nuclear energy on a sound footing for the future. In the absence of a real solution for spent nuclear fuel, I worry that the nuclear renaissance will be stalled out before it ever really gets started.

Mr. Sproat has shown a single-minded focus on getting the license application for Yucca Mountain submitted to NRCC later this year, and that focus is somewhat admirable, but it means that Mr. Sproat and his colleagues have ignored any alternatives that might have moved spent fuel sooner or might have become necessary if political opposition continues to block progress on Yucca Mountain.

And let me say, I just read a quote by somebody the other day that there is talk now of storage in certain sections of the United States and in an interim sort of basis or a more permanent sort of basis, and even one in a deep repository other than the Yucca Mountain. And, you know, it seems to me I hear echoes of somebody else having said that about 4 or 5 years ago when it was considered ill-conceived and poppycock or something like that. But it seems that things do go around, and maybe someday something positive will happen.

On the nuclear front, there is much less clarity on what the Department is trying to accomplish. Sometimes the priority is on financial assistance to the nuclear industry to get existing reactor designs licensed and built, sometimes it is on advanced reactor technologies, and sometimes it is on advanced recycling technologies. Unfortunately, the Office of Nuclear Energy has spun around in so many circles over the Global Nuclear Energy Partner-

ship that it squandered its credibility not just for GNEP, but, in my opinion, also for the larger nuclear energy issues.

I said at this hearing last year that there were three challenges that define what we expect the DOE to do in the near term: First, reduce the \$7 billion in liability facing the Federal Government over its failure to dispose of commercial spent fuel, reduce the need for eight more Yucca Mountains by the end of the century, and make it possible for NRC to license new reactors while finding an assured disposal pathway for spent fuel. Unfortunately, the Department has done little or nothing to address the challenges that I laid out last year.

As today will probably be my last time to espouse on this topic, I was hoping to have something really positive to say about the progress DOE has made over the last several years. Unfortunately I can't. Yes, there is some cause for enthusiasm that a number of new reactors are now in the licensing process, but I hope to see dozens of new reactors, because if we are going to really make a change, we probably need at least 30 just to maintain where we are and probably another 30 to really flip where we are going. And I certainly hoped that before we built new reactors, we had provided real solutions for spent fuel. I think it is one of the most stupid things I have ever seen in my life to take perfectly good rods and put them down in a hole and leave them for 10,000 years. Those rods are useable if you get to them fast enough, about 98 percent after the first use, but nobody does it. And when we do try to do something like that, we subsidize the hell out of somebody. But anyway, that will get me off another thing I don't want to get off on.

To build more reactors without a solution for spent fuel is both short-sighted and irresponsible. I am already worried that we are leaving our children and grandchildren a legacy of spent fuel from existing reactors. So what does the Department do? It encourages the construction of more reactors with still no solution in sight to spent fuel.

Now we hear the Department is shopping around the idea of assigning responsibility of spent fuel to a new entity outside of DOE. While this proposal may help correct the obvious inattention and mismanagement of the Department, it won't help you overcome the skepticism here in Congress.

I am extremely disappointed that this administration has made so little progress on these issues. I know it isn't realistic to expect you to hit a home run on spent fuel, but at least you ought to go down swinging and maybe hitting. I wouldn't even mind if you hit a couple of foul balls trying to get there, trying to get a hit. But I guess I am disappointed.

Hopefully someday I can come back, Mr. Chairman, and come into this room and thank this committee and an administration for moving forward on these issues and solving these problems for the future and—not just the future, the future quality of life of the people in this country. I guess I am not optimistic about that over the next 8 months, 9 months, whatever it is. I worry that we haven't left the foundation that the next administration will pick up on, and this will languish even longer.

So with that dismal outlook—even though I do love this committee, let me say I have probably enjoyed this committee intellectually as much as Defense has been a good intellectual committee for both of us. Of course I loved MILCON. I am not sure I like the configuration today, that it would be awfully hard to do, Chet. But it is a better configuration than when I had it, because I tried to get some stuff through that you now have got, and I congratulate you on that.

This is, I guess, my swan song. I wish it would have been more positive on these budget things. When I first came, I was number two to John Kasich on the Budget Committee when we balanced the budget. Hence, we tend to look at things from that standpoint. Dennis and Edward, it is your show, and I am just disappointed that we didn't get further along on some of these things than we did, Mr. Chairman. Thank you for your friendship over the years, sir. I appreciate it.

Mr. VISCLOSKY. Thank you.

Mr. Spurgeon.

MR. SPURGEON'S OPENING STATEMENT

Mr. SPURGEON. Chairman Visclosky, Ranking Member Hobson and members of the subcommittee, I am here to discuss the fiscal year 2009 budget request for the Department of Energy's Office of Nuclear Energy. Our Nation's strength and prosperity is built on security and the availability of reliable sources of energy. A cornerstone to these goals of continued economic growth and a sustainable energy future is nuclear power.

The Office of Nuclear Energy's budget request supports the near-term expansion of safe, reliable, carbon-free nuclear power and the development of advanced nuclear technologies now and into the future. It is significant to note that since President Bush took office, his administration has increased its funding request for nuclear energy in every year for the past 7 years. We can take some pride in this increase, but from historical perspective, our total budget request for 2009 is less in absolute dollars than the resources we were devoting to nuclear energy the last time I served in government, more than 30 years ago in the Ford administration. In constant dollars, today's budget is about one-third of the budget we prepared in 1976. In fiscal year 2009, a total of \$1.4 billion is requested for nuclear energy activities.

I would now like to take a moment to highlight our program areas and their corresponding budget requests. In fiscal year 2009, the President's budget requests \$241.6 million for Nuclear Power 2010 in support of industry costs shared, near-term technology development, and regulatory demonstration activities focused on enabling an industry decision to build a nuclear plant by 2010. To this end, the program will continue to support industry interactions with the Nuclear Regulatory Commission on new plant license applications as well as first-of-a-kind design finalization for standardized reactor designs.

The request also supports the issuance of conditional agreements for stand-by support in fiscal year 2009.

This budget request also includes \$301.5 million for the Advanced Fuel Cycle Initiative in support of the Global Nuclear En-

ergy Partnership. The fiscal year 2009 request supports research and development on fuel cycle technologies that will support the economic and sustained production of nuclear energy, while minimizing waste and satisfying requirements for a controlled, more proliferation-resistant nuclear materials management system.

The request also supports ongoing international activities to establish a framework for ensuring a reliable international fuel supply and the availability of grid-appropriate reactors.

I recognize the committee's direction to provide increased agency-wide competition for our Advanced Fuel Cycle Initiative R&D funds between national laboratories, universities and commercial entities. I further recognize the length of time that it takes to implement this type of open competition, and we have already initiated preparation of one or more competitive solicitations to award up to \$150 million in fiscal year 2009, subject to appropriation and via open competition.

This budget requests \$70 million for the Generation IV program. This request supports critical research and development to achieve design goals and make the next generation nuclear plant licensable, sustainable and economic. In fact, I would like to announce that today DOE will be issuing a request for information for the public and expressions of interest from potential participants for the Next Generation Nuclear Plant demonstration project. This is the next step for the Department to form a cost-sharing partnership with industry to design, license and potentially build a high-temperature demonstration reactor capable of producing hydrogen, electricity and/or process heat at the Idaho National Laboratory. Additionally, the Department is seeking public comments to inform its development of a strategy for the NNGP project.

The fiscal year 2009 budget requests \$16.6 million for the Nuclear Hydrogen Initiative to support research and development on enabling technologies, nuclear-based, hydrogen-based technologies, and technologies that will apply heat from Generation IV nuclear energy systems to produce hydrogen.

Finally, \$222 million is requested to maintain and operate the Department's unique nuclear facilities and infrastructure at Idaho National Laboratory, Los Alamos National Laboratory and Oak Ridge National Laboratory.

I would also like to note that the fiscal year 2009 budget request continues our commitment to fostering an expansion of nuclear engineering programs at our universities. We have committed to designating 20 percent of the funds appropriated to our R&D programs for work to be performed at universities. At the level set forth in the President's request, 20 percent would provide almost \$77 million for this work.

Mr. Chairman, that concludes my opening statement. I would be pleased to answer your questions.

Mr. VISCLOSKY. Thank you very much.

[Mr. Spurgeon's written testimony follows:]

STATEMENT OF
DENNIS R. SPURGEON
ASSISTANT SECRETARY FOR NUCLEAR ENERGY
U.S. DEPARTMENT OF ENERGY

ON THE FY 2009 BUDGET REQUEST

BEFORE THE

HOUSE COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

APRIL 10, 2008

Chairman Visclosky, Ranking Member Hobson, and Members of the Subcommittee, it is a pleasure to be here today to discuss the President's Fiscal Year 2009 budget request for the Department of Energy's (DOE) Office of Nuclear Energy.

Our nation's strength and prosperity is built on our security and the availability of reliable sources of energy. The President's \$25 billion Fiscal Year 2009 budget request for the Department aggressively addresses the growing demand for affordable, clean, and reliable energy and helps preserve our national security by working to further our energy security. A cornerstone to the goals of continued economic growth and a sustainable energy future is nuclear power. The Office of Nuclear Energy's budget request ambitiously supports the near-term expansion of safe, reliable and carbon-free nuclear power and the development of advanced nuclear technologies now and into the future. It is significant to note that since President Bush took office, his Administration has increased its funding request for nuclear energy in every year in every year for the past seven years. In FY 2009, a total of \$1.4 billion is requested for nuclear energy activities including \$487 million for the Mixed Oxide Fuel Fabrication Facility.

The President's commitment to nuclear power stems from its role as the only viable near-term option for producing significant amounts of emissions-free, baseload electricity. The expansion of nuclear power will play a key role in our decisions to find viable solutions to address the challenges posed by greenhouse gas emissions, climate change, and energy security while promoting a vibrant economy.

Today, 104 nuclear reactors generate nearly 20 percent of America's electricity and account for nearly 70 percent of electricity produced from non-emitting sources. Last month, the Nuclear Energy Institute reported that U.S. reactors produced 807 billion kilowatt hours of electricity in 2007—enough to power more than 72 million homes for a year. That total surpasses the previous record high of 788.5 billion kilowatt hours in 2004. However, for nuclear power to maintain its role in our energy supply, it must grow. To sustain nuclear power's current 20 percent share, forty to forty-five new reactors must be built by 2030.

Worldwide, thirty-one countries operate 439 reactors totaling 372 GWe of electricity capacity. Thirty-four new nuclear power plants are under construction worldwide, and when completed, will add an additional 28 GWe of new electricity. This new construction is taking place or being considered in every major region in the world including Africa, Asia and the Indian subcontinent, Europe, the Middle East, South America, and North America.

We have recently seen projections that anticipate 55 total countries will operate 630 reactors totaling approximately 630 GWe by 2030. Potentially, a total of 86 countries could have nuclear reactors by 2050.

Internationally, nuclear power is moving forward at a rapid pace with each month seemingly bringing new, significant announcements.

Nuclear power's ongoing expansion around the world requires us to address the used fuel and proliferation challenges that confront the global use of nuclear energy. To ensure that the United States plays a significant role in global nuclear energy policy, we must foster a robust domestic nuclear research and development program that maintains a cutting-edge nuclear technology infrastructure, and encourage international actions that support reliable nuclear fuel services as a viable option for countries that may otherwise consider the development and deployment of enrichment and reprocessing technologies. To meet these challenges, the President initiated the Global Nuclear Energy Partnership (GNEP). The domestic component of GNEP promotes the accelerated development and deployment of advanced fuel cycle technologies, while the international component encourages cooperation among States that share the common vision of the necessity of the expansion of nuclear energy for peaceful purposes worldwide in a safe and secure manner.

We have made marked progress in every one of our program areas, but much remains to be done. Our FY 2009 budget request moves us in the right direction, allowing the Department and the Office of Nuclear Energy to take the lead in spurring the nuclear renaissance in the United States. I would now like to take the time to highlight our program areas and their corresponding budget requests.

Nuclear Power 2010

A key component of our work and one of our most successful programs at the Department of Energy is the Nuclear Power 2010 program or NP 2010. This program was initiated by President Bush in 2002 and has produced significant results toward its goal of reducing the technical, regulatory, and institutional barriers to the deployment of new nuclear power plants. DOE and the President have increased our commitment to cross the finish line by nearly doubling its 2009 budget, calling on Congress to provide \$241.6 million for NP 2010 to help ensure this important program can complete its work.

NP 2010 supports industry through cost-sharing near-term technology development and regulatory demonstration activities focused on enabling an industry decision to build a new nuclear plant by 2010.

Of the six Construction and Operation License (COL) applications that have been submitted to the Nuclear Regulatory Commission (NRC), five COL applications have been officially accepted for review by the NRC. And of these five, two applications—TVA's application for two Westinghouse AP1000 reactors at the Bellefonte site in Alabama, and Dominion Energy's application for a General Electric-Hitachi Economic Simplified Boiling Water Reactor at the North Anna site in Virginia—were developed through the NP 2010 cost-share program. In total, the NRC expects to receive twenty COL applications for thirty-one new reactors by seventeen different utility companies. Of these 20 COL applications, eight will reference either the Bellefonte or North Anna license applications. This simplification in the licensing process is expected to reduce the license application and review time these reference COLAs by up to 50 percent.

Three early site permits have been approved for Exelon's Clinton site in Illinois, Entergy's Grand Gulf site in Mississippi, and the North Anna site, all a part of the NP 2010 cost share program, and a fourth ESP permit is pending. In addition, two new reactor design certifications have been approved by the NRC, the ABWR and the AP1000, and DOE is continuing with on-going first-of-a-kind design finalization activities for the standardized AP1000 and ESBWR designs, including: preparation of engineering analyses and calculations, design criteria documents, and total cost and schedule estimates necessary for an industry purchase of a new nuclear plant.

The NP 2010 program will continue to develop generic application preparation guidance for fifteen COL applications expected in 2008 to help resolve regulatory issues that could potentially delay or derail NRC approval.

Advanced Fuel Cycle Initiative and GNEP

President Bush announced the Global Nuclear Energy Partnership (GNEP) as part of his Advanced Energy Initiative in February 2006. The Advanced Fuel Cycle Initiative (AFCI) is the domestic technology development and deployment component of GNEP. The AFCI program aims to develop and demonstrate advanced fuel cycle technologies for recycling used reactor fuel to develop an integrated used fuel recycling plan, and support on-going research efforts with the goal of reducing the amount of material that needs disposal in a geologic repository and maximizing our use of energy resources.

In effort to further this important work, our budget request includes \$301.5 million in Fiscal Year 2009 funding for AFCI. This request supports research and development activities that will advance the economic and sustained production of nuclear energy while reducing waste and satisfying requirements for a controlled nuclear materials management system that helps strengthen the nuclear nonproliferation regime. The request also supports on-going international activities to establish a framework for ensuring reliable international fuel services and the availability of grid-appropriate reactors, and the continued utilization of industry for schedule, cost, and technology developments for eventual recycling facility deployment.

Long-term goals of AFCI/GNEP include the partitioning of used fuel and recycling of long-lived radioactive isotopes for destruction through transmutation in liquid metal-cooled fast neutron spectrum reactors for actinide consumption and nuclear resource sustainability.

AFCI/GNEP funding also provides support for a large number of universities involved in fuel cycle research and development, which both ensures that the U.S. has the intellectual capital needed to sustain our nuclear fuel cycle for the future and provides the important research needed for today's fuel cycle activities. Recycling used nuclear fuel rather than permanently disposing of it in a repository would result not only in utilizing more of the energy, but would also reduce the amount of high-level waste that needs disposal in a repository, thereby greatly enhancing the potential capacity of any geological repository. This increased efficiency in the fuel supply could ensure that even with the expansion of nuclear energy, the potential capacity of any geological repository would be greatly enhanced.

Generation IV

The Generation IV program is focused on very high temperature reactor technologies for use in a Next Generation Nuclear Power Plant (NGNP) to produce electricity, process heat, and hydrogen. Generation IV also is readying technologies that will further improve the economics and safety performance of existing Light-Water Reactor and advanced Generation IV reactor concepts.

The FY 2009 budget request includes \$70 million for the Generation IV program. The Energy Policy Act of 2005 (EPACT) authorized the Department to create a two-phased NGNP Project at the Idaho National Laboratory (INL). The Department is presently engaged in Phase I of the EPACT-defined scope of work, which includes: developing a licensing strategy, selecting and validating the appropriate hydrogen production technology, conducting enabling research and development for the reactor system, determining whether it is appropriate to combine electricity generation and hydrogen production in a single prototype nuclear reactor and plant, and establishing key design parameters. Phase I will continue until 2011, at which time the Department will evaluate the need for continuing into the design and construction activities called for in Phase II.

Additionally, this request supports component and material aging and degradation research and development that will provide the basis for extending the operating license period for existing nuclear reactors beyond 60 years, and will also enable the design of advanced reactor concept plants with longer operating life spans.

Hydrogen Initiative

Nuclear energy has the potential to produce large quantities of hydrogen efficiently without producing greenhouse gases and could play a significant role in hydrogen production for transportation and industrial sectors. Considerable progress in hydrogen combustion engines and fuel cells is bringing hydrogen-powered transportation close to reality. The goal of the Nuclear Hydrogen Initiative (NHI) is to demonstrate hydrogen production technology at increasingly larger scales through the use of nuclear energy that would be technically and economically suited for commercial deployment in concert with a nuclear power plant.

\$16.6 million dollars has been requested for the NHI to continue hydrogen production systems operation and testing, evaluation of process improvements, and assessment of long-term process stability, operability, and component durability. Furthermore, results from the integrated laboratory-scale experiments will be analyzed to identify cost drivers with an end goal of supporting a hydrogen technology selection by 2011.

Nuclear Facilities

The Department of Energy supports nuclear science and technology through one of the world's most comprehensive research infrastructures. The Office of Nuclear Energy has requested \$222 million dollars to maintain and operate infrastructure at Idaho National Laboratory (INL), Los Alamos National Laboratory (LANL), Brookhaven National Laboratory (BNL), and Oak Ridge National Laboratory (ORNL). \$104.7 million is dedicated to Idaho National Laboratory's facilities management. INL conducts science and technology research across a wide range of disciplines, INL's core missions include: development of advanced, next generation fuel cycle and reactor technologies; promotion of nuclear technology education, and applying technical skills to enhance our Nation's security.

Additionally, \$38.7 million is requested to maintain a wide range of nuclear and radiological facilities and their associated infrastructures in an operational, safe, secure, and environmentally compliant manner at LANL, BNL, and ORNL. This infrastructure supports national priorities, including the provision of radioisotope power systems for national security uses and space exploration.

Other Defense Activities

Included in the Office of Nuclear Energy Fiscal Year 2009 request, under Other Defensive activities, is \$487 million for activities associated with the continued construction of the Mixed Oxide Fuel Fabrication Facility and \$78.8 million for site-wide safeguards and security activities at the Idaho National Laboratory to protect the assets and infrastructure from theft, diversion, sabotage, espionage, unauthorized access, compromise, and other hostile acts that may cause unacceptable adverse impacts on national security, program continuity, or the health and safety of employees, the public, or the environment.

University Funding

Our FY 2009 budget request continues our commitment to fostering the expansion of nuclear engineering programs at our universities and research institutions. Specifically, the budget request for the Office of Nuclear Energy explicitly states that we “will continue to support R&D activities at universities and research institutions through competitive awards focused on advancing nuclear energy technologies,” and we have committed to “designate 20 percent of funds appropriated to its R&D programs for work to be performed at university and research institutions.” These funds will support basic research and mission-specific applied R&D activities, as well as human capital development activities, such as fellowships and infrastructure and equipment upgrades for university-based research reactors and laboratories. At the level set forth in the President’s Budget Request for FY 2009, 20 percent provides almost \$77 million for this work. This commitment of 20 percent of appropriated funds will serve as a catalyst for success in achieving the objectives of the President’s American Competitiveness Initiative and the America COMPETES Act.

This concludes my prepared statement. I would be pleased to answer any questions you may have.

Mr. VISCLOSKY. Mr. Sproat.

MR. SPROAT'S OPENING STATEMENT

Mr. SPROAT. Morning, Mr. Chairman, Mr. Hobson and members of the committee. Thank you for the invitation to appear this morning.

First of all, I would like to thank the committee for your support to our program for our fiscal year 2008 appropriation. We asked for \$494.5 million last year, and this subcommittee recommended full funding of that, and I very much appreciate that.

I would like to remind the committee of when I appeared before you last year at this time and asked for that \$494.5 million, what I said we would accomplish with that money and give you an update on where we stand with that. I said that we would submit a license application to the Nuclear Regulatory Commission for the construction of the Yucca Mountain repository no later than June 30th of this year. I said we would certify the licensing support network that contains the millions of documents to support the litigation associated with the license application no later than December of 2007. I said we would complete the supplemental Environmental Impact Statement for Yucca to go in with the license application in June of this year. I said we would do the report on the need for a second repository and provide it to Congress this year. And I said that we would complete the EIS for the Nevada rail line associated with the repository this year.

Now, as this committee, I am sure, is painfully aware from the process that you all had to go through, that the amount of money that my office eventually got in the fiscal year 2008 appropriation was \$108 million less than what we requested. However, obviously that presented significant management challenges to me and my management team with that appropriation finally coming effective at the end of the first quarter of the fiscal year. But we have made substantial progress in changing the management approach within the Office of Civilian Radioactive Waste Management, and I am very happy to report to this committee, and I am very proud of my team, that we will, in fact, meet or beat our schedule on all of those deliverables this year despite that \$108 million cut in the appropriation that we finally received in fiscal year 2008. And I will talk more about some of those, I am sure, during the opportunity for questions.

There is a fallout, though, of that reduction. That \$108 million less than the President's request for fiscal year 2008, it was \$100 million less than the President's request in fiscal year 2007. As a result of that, when I was in front of this committee last year at this time, I talked about the best achievable date of opening the repository by March of 2017. That date is no longer achievable. And I will talk a little bit more about what we are doing in terms of rebaselining the program in a minute. But the March 2017 date is one of the casualties of that reduced funding in fiscal year 2007 and 2008.

Turning to fiscal year 2009, budget request is \$494.7 million, essentially a flat request from what the President asked for in 2008. If you remember when I appeared before you last year, I presented the required cash flows for the repository program in order for it

to be able to open in March of 2017, assuming an unconstrained cash flow. And I think you may remember that that chart that I showed you showed that we would require \$1.2 billion in fiscal year 2009 to meet that March 2017 date.

As you will note, we are asking for significantly less than that, and you may ask why. And the answer is that we recognize the budget realities of the appropriations process. The fact that we have received \$100 million less in 2007, \$108 million less in 2008 despite the intent of this subcommittee, we recognize that it is very, very unlikely that the Congress would give us the significantly increased funding that we would need to build the repository on the shortest critical path schedule.

So what we are doing is we are rebaselining our schedule with a different set of assumptions, and the key different assumption is that the Congress will not give us access to the Nuclear Waste Fund and increase funding for this program until the Nuclear Regulatory Commission gives us the actual authorization to construct the repository, which we would anticipate in 2011 or 2012. So we are now rebaselining the program with that different input assumption of essentially flat funding over the next 3 or 4 years. And then what I intend to do is I will provide to this committee and to the Congress what the revised baseline and best achievable date for the repository is based on that set of assumptions which, based on my experience now in my 2 years in government services, is probably a more realistic assumption on my part in terms of the funding profile we can expect in the short term. However, in 2009, our focus will be on defending the license application in front of the Nuclear Regulatory Commission and beginning the detailed design that is needed to support construction and fast-track construction once the repository construction authorization is received. And we have the adequate funding to proceed with construction.

Obviously I am also going to spend time and money further developing the DOE organization for it to be able to execute its mission of overseeing the licensing, the construction and the operation of the repository and the transportation system.

Let me just talk a little bit in closing about—I know we are going to have some discussions about interim storage and about some other concepts associated with the back end of the fuel cycle. Let me be very, very clear, as I hope I was last year. Under any scenario whatever, the country needs a deep geological repository for high-level waste. Recycling won't make that go away. It just is needed. And the only site we have as a country right now as mandated by Congress is Yucca Mountain, and that is somewhat of a driver of my single-mindedness of moving the license application forward on Yucca Mountain.

But it is also very clear to me that we will not be able to build this repository unless we fix the funding mechanism that the Congress set up in the Nuclear Waste Policy Act by allowing us to have access to both the \$750 million a year of fees that the utility users pay into the Nuclear Waste Fund as well as eventually the corpus and the interest on that fund so that we can actually build the repository at an optimum rate. With flat funding at the funding levels that we have, this program has historically had, over the past decades in the \$400 million to \$500 million range, we won't be able

to build the repository and the transportation system that is needed to bring the fuel there.

In closing, let me just say that we have made substantial progress. The Department of Energy has made substantial progress over the past year in moving this repository program forward. I have a very high confidence level that the license application we are about to deliver to the Nuclear Regulatory Commission will not only be accepted, but that we will get a construction authorization for the repository. And I have a very high confidence level in the senior DOE management team that I will leave behind me at the end of my tenure in this position to move this program substantially.

And so I respectfully request that the committee and the Congress approve the President's request that we are asking for fiscal year 2009 and allow us to proceed with the execution of this project. And thank you very much for your attention. I will be glad to answer whatever questions you might have.

Mr. VISCLOSKY. Thank you very much.

[Mr. Sprout's written testimony follows:]

Statement of Edward F. Sproat, III
Director
Office of Civilian Radioactive Waste Management
U.S. Department of Energy
FY 2009 Appropriations Hearing

Mr. Chairman and Members of the Committee, I am Edward F. Sproat, III, Director of the Department of Energy's (DOE) Office of Civilian Radioactive Waste Management (OCRWM). I appreciate the invitation to appear before the Committee to discuss the President's fiscal year (FY) 2009 budget request for my Office which has the responsibility to design, license, construct, and operate the Nation's repository for the disposal of spent nuclear fuel and high-level radioactive waste, as defined in the Nuclear Waste Policy Act (NWPA) of 1982, as amended.

When I came to this Committee last year, I outlined a number of specific deliverables that OCRWM would achieve in FY 2008, assuming appropriation of the President's request of \$494.5 million, including:

- Submit a License Application for a Construction Authorization for a geologic repository for disposal of spent nuclear fuel and high-level radioactive waste at Yucca Mountain to the Nuclear Regulatory Commission (NRC) by June 30, 2008;
- Certify DOE's Licensing Support Network collection in accordance with NRC requirements and regulations by December 21, 2007;
- Complete the Supplemental Environmental Impact Statement (EIS) for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain;
- Perform the analysis and deliver the report to Congress required by the NWPA on the need for a second repository; and
- Complete the final EIS for a Rail Alignment for the Construction and Operation of a Railroad in Nevada to a Geologic Repository at Yucca Mountain.

Despite this Committee's recommendation to fully support the President's request of \$494.5 million, the Congress eventually appropriated \$386.4 million for OCRWM in FY 2008, a reduction of \$108.1 million from the President's request. This large reduction, which occurred well into the fiscal year, contributed to significant management challenges, and following the FY 2007 appropriation which was approximately \$100 million less than the President's request, caused a reduction in force of approximately 900 personnel from the Program. The cumulative impact of these significant appropriation reductions is that DOE is no longer able to maintain the best achievable opening date of

March 2017 that I presented to the Committee last year. However, because of significant improvements we have made in management practices and processes, we will be able to complete all of the deliverables for FY 2008 that I promised the Committee last year on or near schedule, including the submittal of the License Application to the NRC this June.

FY 2009 BUDGET REQUEST AND KEY ACTIVITIES

The President's FY 2009 budget request for this Program is \$494.7 million. The Committee will note that this amount is significantly less than the \$1.2 billion for FY 2009 that I presented to the Committee last year as the amount needed to achieve the best achievable opening date of March 2017. This FY 2009 funding request reflects what the Administration sees as the realities of the effects of the current discretionary spending budget caps on this Program. Because the funding mechanism established by Congress for the Program when it established the Nuclear Waste Fund is not currently available to offset appropriations for this Program, we have limited our budget request to an amount that is needed to support the process to attain a Construction Authorization from the NRC and to continue some of the other critical path activities. We believe that unless Congress addresses the funding mechanism issue for this Program by acting affirmatively on the proposed legislation this Administration has sent to Congress, it is unrealistic to expect Congress to appropriate the significant increases in funding needed to open the repository in the shortest possible time (i.e., by 2017). We are therefore re-baselining the Program schedule and budget authority cash flow projections to reflect what we expect to be flat funding until the NRC issues the Construction Authorization. I will provide this revised information to the Committee when it is completed.

FY 2009 will be the first year of a multi-year license defense process. Following an acceptance review by the NRC, it is anticipated that the NRC will docket the License Application, thus beginning the formal licensing phase that is anticipated to last three to four years. In FY 2009, our objectives are to:

- Defend the License Application for the repository before the NRC;
- Begin detailed design for the facilities required for receipt of spent nuclear fuel and high-level radioactive waste at the repository;
- Continue essential interactions with State, local, and Tribal governments needed to support national transportation planning;
- Complete efforts to finalize the contour mapping and the layout of the rail line to support land acquisition and complete a right-of-way application for the Nevada rail line;

- Continue design and licensing work on the Transportation, Aging and Disposal (TAD) canister system;
- Continue staffing and training the OCRWM organization so that it has the skills and culture needed to design, license, and manage the construction and operation of the Yucca Mountain project with safety, quality, and cost effectiveness; and
- Continue planning and designing a compliant and well-integrated safeguards and security, safety, and emergency management program

In addition, the budget request also includes funds for the following activities:

- Funding for payments-equal-to-taxes to the State of Nevada and Nye County, Nevada, where Yucca Mountain is located. Our FY 2009 request also includes oversight funding for the State of Nevada, affected units of local government and an affected tribe, as well as funding for the University System of Nevada and Nye County, Nevada, and Inyo County, California for independent scientific studies;
- Funding for cooperative agreements with State regional groups and other key parties involved in transportation planning; and
- Funding for Program direction which supports Federal salaries, expenses associated with building maintenance and rent, training, and management and technical support services, which include independent Nuclear Waste Fund audit services, independent technical and cost analyses, and University-based independent technical reviews. We also have included funding to begin the upgrade of obsolete data storage systems which house the scientific data collected over the years of this Program; this significant asset is now at risk of loss.

IMPLICATIONS OF NON-ACCESS TO THE NUCLEAR WASTE FUND

The NWPA establishes the requirement that the generators of high-level nuclear waste must pay for its disposal costs. As a result, the Nuclear Waste Fund was created and is funded by a 1 mil per kilowatt-hour fee on all nuclear generation in this country. As of today, the Fund has a balance of approximately \$21.0 billion which is invested in U.S. Treasury instruments. The government receives approximately \$750 million per year in revenues from on-going nuclear generation and the Fund averages about 5.5 percent annual return on its investments. At the present time, due to technical scoring requirements, appropriations for the Yucca Mountain repository have a significant negative impact on the Federal budget deficit. Specifically, the monies collected are counted as mandatory receipts in the budgetary process, while spending from the Nuclear Waste Fund is scored against discretionary funding caps for the Department. In legislation the Administration submitted to the 109th Congress and has submitted again to

this Congress, the President proposes fixing this problem by reclassifying mandatory Nuclear Waste Fund receipts as discretionary, in an amount equal to appropriations from the Fund for authorized waste disposal activities. Funding for the Program would still have to be requested annually by the President and appropriated by the Congress from the Nuclear Waste Fund.

Sustained funding well above current and historic levels will be required if the repository is to be built. Funding at current levels in future years will not be adequate to support design and the necessary concurrent capital purchases for repository construction, transportation infrastructure, and transportation and disposal casks. The development of a credible schedule for the Program is highly dependent upon a steady and reliable funding stream.

The Department estimates that U.S. taxpayers' potential liability to contract holders who have paid into the Nuclear Waste Fund will increase from approximately \$7.0 billion to approximately \$11 billion if the opening of the repository is delayed from 2017 to 2020. The calculation of potential costs to taxpayers is a complex matter that depends on a number of variables that change year to year, however, on average the liability will increase \$500 million annually. The Department has not attempted to calculate precisely what these costs would be if the opening of the repository were delayed beyond 2020. There will also be added costs associated with keeping defense waste sites open longer than originally anticipated. The Department has not yet estimated those costs. It can be seen, however, that each year of delay in opening the repository has significant taxpayer cost implications, as well as the potential for delaying construction of needed new nuclear power plants. Therefore, the Administration believes it is in the Country's best interest to expedite construction of the repository and the transportation infrastructure necessary to bring both defense and commercial spent nuclear fuel and high-level waste to Yucca Mountain.

SUMMARY

In summary, the President's FY 2009 budget request will provide the needed funds to defend the License Application for a Construction Authorization of a geologic repository for disposal of spent nuclear fuel and high-level radioactive waste at Yucca Mountain. The significant reductions in appropriated funding for FY 2007 and FY 2008, however, have negated the Department's ability to meet the March 2017 best achievable opening date. Each year's delay beyond the March 2017 date will result in increased potential taxpayer liability to utility contract holders as well as increased costs for storage at defense waste sites across the country. I respectfully urge the Congress to consider and pass the President's FY 2009 budget request for OCRWM.

I would be pleased to answer any questions the Committee may have at this time.

Mr. VISCLOSKY. I just have a couple of questions, and then I will turn to Mr. Hobson.

LICENSE APPLICATION

You have mentioned submitting the license application by June 30th. Are there any potential impediments that might still keep you from meeting that date as we sit here today in April?

Mr. SPROAT. Not that I am aware of, Congressman. I have a meeting out in Las Vegas next week with all of my senior management team, both Fed and contractors, for a final review and sign-off where they are going to look me straight in the eyes and say, we believe it is done, it is correct, and we recommend that it be submitted to the NRC. And assuming how that meeting goes, and I am anticipating it to go well, but I have the final decision on whether or not it is ready to be submitted, and I will make that decision sometime next week. After that point in time, then I will authorize it to go to the printer. And once the printing process is done and final checks are done inside DOE, we will submit it to the NRC sometime in June.

Mr. VISCLOSKY. You cover some of this in your testimony. I would like to get into it as far as any budgetary change and certainly acknowledge that you had a reduction of this past year, and that that has changed things. The request for 2009 is significantly less than the funding profile you laid out for the project last year. At the time, you indicated the repository project would need \$1.2 billion this year to stay on schedule for 2017, and the budget request is for \$495 million. Can you talk about that change in funding and what it means for 2009?

Mr. SPROAT. Sure. Having now lived through two budget cycles in my short tenure in the Federal Government, I have—

Mr. VISCLOSKY. Scary, isn't it?

Mr. SPROAT. I have gotten a much better sense of the reality of the process and how difficult it is. It has become very clear to me that the only way we are going to build this repository at the cash flows we need between \$1.2 billion to \$1.9 billion a year is to have access to the Nuclear Waste Fund and the fees coming in. And because of the way the appropriations process is set up right now, with the fees being classified as mandatory receipts and the appropriations being classified as discretionary appropriations, we have a mismatch in the revenue stream and the expenditures associated with this program that was not anticipated by the Congress when the Nuclear Waste Policy Act set up the funding mechanism.

I personally believe that until we get that fixed, and based on my own experience at the House Budget Committee hearing we had on this topic last fall, that between the Office of Management and Budget, the Congressional Budget Office, the House Budget Committee and the Senate Budget Committee, there is a recognition that this mismatch and disconnect exists, but the willingness to fix it is, I would say, weak at best because of the impacts it would have in terms of whatever additional funding gets allocated to this program, that money would have to be found from somewhere else. And we are going to have to work through that issue as best we can.

But right now, based on that experience, I believe that this flat-funding profile is more of a reality of what this program can expect to face. And what I am hoping, and that is all I can do at this stage of the game, is that when we get the construction authorization from the NRC in 3 or 4 years, the Congress will then say, okay, we can go build this, let's go fix the funding stream, and let's go build it, and that that is what this budget reflects.

Mr. VISCLOSKY. Could you compress that 3 or 4 years if you had additional monies now, or is there just some certain time you think this is going to take before you—

Mr. SPROAT. I don't expect that 3- to 4-year licensing window to be compressed. I believe the NRC will be hard pressed to meet that 3- or 4-year window. The Nuclear Waste Policy Act mandated the NRC to complete their review and make their decision within 3 years, and gave them a fourth year if they felt it was needed and informed the Congress of that need. We already have preliminary indication from the State of Nevada and other intervenors that they would expect to file in the neighborhood of between 350 and 500 contentions to the NRC contesting certain aspects of the license application. Those contentions would have to be reviewed by the NRC staff and the NRC hearing boards. It is going to take a while.

So additional funding over this 3- or 4-year period will not compress the licensing period. What it would do, though, is would allow us to move forward with more—moving the detailed design needed to support the actual construction to move that forward faster. It would also allow us to move forward with the transportation infrastructure that is actually needed to move the waste to Nevada.

So when I presented to the Congress last year the integrated baseline, it looked at not just building the repository, but the rail lines and the National Transportation System. And it is that part of the program that is going to be underfunded by this reduced funding in the short term.

Mr. VISCLOSKY. When do you think you will have a new time baseline that you will then be able to provide us with a comparison for your current cost baseline and a new cost baseline?

Mr. SPROAT. Based on where we stand right now, I would expect—be able—here in mid-April, I would expect to be able to do that in June.

Mr. VISCLOSKY. Two other questions, and I will turn to Mr. Hobson.

The NRC, Mr. Sproat, has indicated the funding constraints will make it difficult for them to complete the 3-year review. We just talked about that. I recognize that Congress cut NRC's Yucca Mountain activities by \$8.2 million for this fiscal year; however, it is my understanding that the Office of Management and Budget, part of the executive branch, reduced the NRC's 2009 budget request for your activities by \$41 million. Given that lack of support as far as requests for the NRC by the administration, what is Congress supposed to do?

Mr. SPROAT. That is a hard question to answer. First of all, I was certainly not involved with any of the discussions between the NRC and OMB, so I can't really talk about what was said and what the rationale for that was. I don't know. However, I will say—

Mr. VISCLOSKY. Let me—go ahead.

Mr. SPROAT. I would not be surprised if there was some skepticism with OMB—within OMB of DOE's ability to actually deliver the license application when we said we would, given the budget cut. And I wouldn't be surprised if some of that skepticism was factored into that decisionmaking. They wouldn't be the first group that I have been involved with or I have had contact with that was skeptical that we would actually be able to pull off getting a license application in this year. So I suspect there is maybe some skepticism about DOE's capability to perform that was factored into that decisionmaking.

Mr. VISCLOSKY. And we just talked about the NRC's time line, and I understand it is their responsibility and not yours. But given that reduction in monetary requests for them for 2009, do you think that would have any additional adverse impact as far as stretching that time line out?

Mr. SPROAT. It is certainly very possible, primarily if for no other reason this licensing proceeding in front of the NRC not only being the first of its kind in terms of first-of-a-kind regulation, first-of-a-kind facility, it is going to be probably the most contentious licensing proceeding the NRC has ever had in front of it based on the early data that we have from the potential intervenors. So they are going to have their hands full.

Mr. VISCLOSKY. Do you believe the private sector or a new non-governmental corporation could build and operate the repository for less and more quickly than DOE?

Mr. SPROAT. Not necessarily. And let me explain that. Having a private entity or a government semiprivate entity managing the whole back end of the fuel cycle has a lot of appeal to it, and it could certainly solve some of the problems that the Federal Government faces right now, things like leadership turnover, the ability to do long-term contracting, the ability to offer competitive compensation to attract the people with the right skill sets needed to actually pull a venture of this magnitude off. So it can certainly help. But obviously there would need to be legislation to set that entity up, and if that legislation didn't address some of the other key issues that currently hamstringing this process, it will have accomplished nothing.

The issue of the funding stream and the access to the Nuclear Waste Fund, the issue of land withdrawal, the issue of who has got responsibility for the legacy liability of the Federal Government associated with nonperformance—or partial nonperformance on the contracts; there are a number of issues like that that would have to be appropriately and adequately addressed in that enabling legislation in order for that concept to work well.

Mr. VISCLOSKY. Mr. Hobson.

Mr. HOBSON. You ought to memorialize a lot of that stuff, because when you are gone, it starts all over again. That is part of the problem.

MOX TRANSFER

Let me talk to Mr. Spurgeon about something here. Mr. Spurgeon, as you know, Congress transferred the funding for the MOX project—you figured I was going to start with that, didn't

you—the defense nuclear nonproliferation to your office and transferred the management responsibility as well. We understand that the Office of General Counsel has issued advice preventing at least—temporary advice preventing the transfer out of the NNSA of the management staff who are working on the project. Mr. Spurgeon, the question is, are you still the Assistant Secretary in the Department that is ultimately responsible for the MOX project, or is it someone else?

Mr. SPURGEON. Mr. Hobson, I do continue to have, because the funds were allocated by OMB to the Office of Nuclear Energy from the 2008 budget, a fiduciary responsibility for that; however, I have not been given management responsibility pursuant to advice that was given from the—or I would call it interim advice that was given from the Office of General Counsel to the Secretary. So I do not have a direct management responsibility for it. However, I do maintain myself current relative to the financial expenditures because I do feel some fiduciary responsibility for the proper expenditure of funds for that project.

Mr. HOBSON. Well, explain the chain of command over the team of Federal managers at Savannah River and over the contractor working on this project.

Mr. SPURGEON. The chain of command goes up from the Savannah River team of managers to the NNSA, who has then the headquarters management up through the deputy—the Administrator and Under Secretary responsible for NNSA. That is the operational chain of command. What I have is an ability to make recommendations to them were I to feel that they—that there was not a proper expenditure of those funds. But I am not involved in any way in the direct line management of that project.

Mr. HOBSON. So you don't have effective operational control over the NNSA employees?

Mr. SPURGEON. No, sir, I do not.

Mr. HOBSON. We provide your office with the funding and the responsibilities for MOX project, yet it seems that DOE's legal interpretation at this point has prevented you from exercising full authority. So the question do DOE employees and contractors on the MOX project report to you, they don't?

Mr. SPURGEON. No, sir.

Mr. HOBSON. Okay. Are you personally accountable for how all of the MOX funding provided the Office of Nuclear Energy is being spent, or are some of those funding decisions being made elsewhere in DOE? The funding decisions I am talking about.

Mr. SPURGEON. Well, obviously as funds are spent for construction of that project, those are made by the Federal project manager who resides in Savannah River.

Mr. HOBSON. My main question is, under the current situation—I think you probably already answered it—do you have full management control over all aspects of the MOX project?

Mr. SPURGEON. No, sir.

Mr. HOBSON. You don't?

Mr. SPURGEON. No, sir.

Mr. HOBSON. Well, this is something we have got to get at and we have got to get resolved. It appears to me that this is once again indicative of this Department that, even though a bill is

passed by the United States Congress and signed by the President of the United States, will not take the directed action. It is not just with this issue, there are lots of other issues where the Department says, we don't care what the Congress of the United States says, we just go ahead and do what we want to do.

You would agree that the President signed the bill, right?

Mr. SPURGEON. Yes, sir, he did.

Mr. HOBSON. Okay. And there is certain language in the bill, right?

Mr. SPURGEON. Yes, sir, the bill and the committee reported that—that accompanied it.

Mr. HOBSON. Here is the dangerous part of this. If your guy hangs his hat on the report language, and you continue to do this in this Department and other departments, you are going to see everything written in the bill language. When that happens, the ability for the Department to do the work in the way I think it should be done is going to go away. That is where we are heading with this stuff, and I don't think that is good. I am not going to be here, but I don't think that is a good position for an administration to take.

Let me ask you this: Is there a signing letter accompanying this when the President signed the bill saying, we are not going to do certain things? I mean, I think they are unconstitutional, but they have these letters that they hang their hat on. Is there one with this?

Mr. SPURGEON. I am not aware of one.

Mr. HOBSON. I am not either. I am not either. And that disturbs me even worse. First of all, I don't like those letters. Second of all, if there is not one with this, I don't know why they are hanging their hat the way they are. Maybe somebody at OMB didn't, or maybe the Secretary didn't, but the President must have, because if it had risen to that level, they would have done one of those letters. But they didn't. They didn't. And that should be duly noted by the arrogance—and I call it arrogance—of this Department.

Somebody told this guy to write this. He didn't dream this up. This is what is wrong with the relationship between this administration and this Congress. If the President had ever expressed problems with this, or his surrogate, it might be different, but he didn't, he didn't.

I am emotionally upset about this issue particularly because it is personal with me. But there are other places where we have this same problem, especially with this Department. We have them someplace else, too, but in this one particularly, the arrogance of this Department is what is undermining its effectiveness. We have tried to have dialogue. We don't get anywhere with the agency. They continue to flout the will of Congress. I think it causes Mr. Sproat some problems. It causes other parts of this agency to have problems that are not necessary if they would just work together and be a little less arrogant.

I have other questions, but some people have to leave, and I don't want to take the time from the Members at this point. We have a whole book here we are going to go through.

Mr. EDWARDS. Mr. Chairman, thank you.

I would like to begin my time as someone who served on two subcommittees with Dave Hobson. I would like to add to your comments and thank you, Mr. Chairman, for honoring Mr. Hobson for his service to Congress. In my serving on those two subcommittees under his leadership, I always found him to be smart, knowledgeable, he went the extra mile to do his homework, and, yes, tough, but never tough for toughness's sake, but tough because of his championing the constitutional role of Congress, be a check and balance in the executive branch, to carry out the responsibility we have, an important one, to oversee the executive branch. And he has been bipartisan in that effort. He has been willing to be tough on the Democratic administrations or Republican administrations in the same way he has been willing to work with Democratic and Republican members of his committees and of this House.

In my book he has always been a model of what public service is all about. It has never been about him or his personal interests. It has been about what he has perceived the Nation's interests to be. And personally I have considered it a privilege and an honor to serve with him. And this isn't a eulogy, you are not going away tomorrow, but it is an important time, and I thank you, Mr. Chairman, for noting it, that this will be the last time that he will have served as Chairman or Ranking Member of a budget hearing in this committee.

And of all the many legacies of Mr. Hobson, too, that I want to thank him for publicly, because I have watched him closely on these, is one—is his leadership role in bringing about better housing for tens of thousands and ultimately hundreds of thousands of military families that are sacrificing, even as we are sitting here in the comfort of this room. They will have world-class housing because of his leadership on the Military Construction Subcommittee.

And also as a father, I am grateful to him for his hands-on management and leadership of nuclear nonproliferation programs. Because of Mr. Hobson, there is a vast quantity of nuclear material that is now well-guarded, and who knows, it might have been that grapefruit size of material that he helped better protect that might have been the very highly enriched uranium that a nuclear terrorist might otherwise have stolen and brought devastation to American cities.

So for all of those reasons, Mr. Hobson, I am grateful that I had the privilege to serve with you.

EXPANSION OF NUCLEAR POWER

Secretary Spurgeon, my one question goes to the issue of the expansion of the nuclear power plants. I strongly support the expansion of nuclear power in the United States. In your written testimony, I believe you said that we will need 40 to 45 new nuclear power plants in the United States by 2030 to maintain our present position with nuclear power as a source of about 20 percent of our electric power needs. Is that—

Mr. SPURGEON. That is about correct, sir. The number of plants depends on the size of the plant that—

Mr. EDWARDS. And I think you testified also that this nuclear renaissance isn't occurring just here in the United States, but throughout the world; is that correct?

Mr. SPURGEON. Yes, sir.

Mr. EDWARDS. My question to you then is, what do we need to do as a Nation and as a world to ensure that as we have this needed expansion of nuclear power as a source of energy, that we do not undermine our protections against the threat of nuclear terrorism? What are we doing to address that challenge, and what do we need to do perhaps we are not doing?

Mr. SPURGEON. Congressman, that is a very good question, and it is the fundamental basis under which we have created the Global Nuclear Energy Partnership.

We are looking at the possibility by the middle of this century of going from today's 31 nuclear countries around the world to perhaps something like 86 countries that might have nuclear power by the middle of this century. To do that, we have to create a regime that will allow that to happen safely and securely, and the best way to create that kind of regime is to create a structure—where the nuclear nations of the world can come together voluntarily as a group to agree on the basic principles that will underlie how we will do this safely and securely.

That is the fundamental purpose behind the Global Nuclear Energy Partnership. We now have some 21 countries who have signed that statement of principles, which, by the way, was originally drafted by the State Department, and I give them full credit for the original draft of that statement of principles. But without that kind of a global partnership, without that kind of a global agreement, we then—have no—structure under which to be able to assure that when new countries come into the nuclear world, that they have the necessary infrastructure. This is very key because an accident any place in the world will have great effect all around the world, not just in that particular country.

Similarly, we need to assure that we can manage the fuel cycle growth as it occurs around the world such that sensitive facilities remain in a limited number of countries. Sensitive facilities, I am talking about enrichment and reprocessing facilities.

The reactor itself is not the thing that we are most worried about. We are worried about the fuel when it is not in the reactor, when it is enriched and what you can do with enriched material, and when it is recycled on the back end. And we have to recognize that even though today the United States is not recycling its fuel from its light water reactors, most of the other—nuclear nations are. And if you look downstream, most people will say you can argue over when we will need to recycle fuel from our fleet of reactors, but most people will agree at some point, that will be something that everyone will want to have the capability of doing.

We need to manage that growth in a responsible way, so that is what we are doing. That is the fundamental reason behind what we are doing internationally in the Global Nuclear Energy Partnership, and we are doing it as a government-wide effort. This is not the Department of Energy going off by itself and doing something independently; this is done totally in coordination with the State Department and our National Security Council as we develop these partnerships. And the Secretary himself has been the chairman of these initial organizing ministerial meetings that we have had.

Mr. EDWARDS. Thank you, Mr. Secretary.

Thank you, Mr. Chairman.

Mr. VISCLOSKY. Mr. Rehberg.

Mr. REHBERG. Thank you, Mr. Chairman. Do I have you to thank for the jerky this morning?

Mr. VISCLOSKY. Yes, sir. The tofu.

Mr. REHBERG. The tofu. If you will bear with us, the three of us on this end of the dais would like to sing For He's a Jolly Good Fellow to Mr. Hobson.

NRC LICENSE APPLICATION

Being new to the committee, I am not particularly familiar with the NRC's application process. Just exactly what does it entail as far as I understand the contentions and all? Are we talking about beyond the storage itself and the safety and the liability aspect? Are we talking EPA? Are there other areas of responsibility, other agencies that you are going to have to coordinate? And I guess the final part of my question would be, is there a streamlined permitting process?

I clearly understand you suggested that it does not matter how much money we spend; it is not going to get there any quicker. All I want to know is, aside from the political aspect, is there something that can keep it from happening? Because any good bureaucrat can delay this thing for 10 years, and any good politician can see that it never happens.

Mr. SPROAT. Just so we are clear, we are talking about the NRC license?

Mr. REHBERG. Correct.

Mr. SPROAT. The proceeding process, the NRC's license application review process is very well documented and very well set out. It is what it is going to be. And it involves both a review of the license application by the NRC staff; they will send us—after we get the license application, they will send us questions, what they call requests for additional information. We will give them written responses back to answer those questions.

At some point in time, as that dialogue proceeds, the Commission staff will write their safety evaluation report, where they evaluate both the safety of the operation of the repository while it is open, and then the long-term evaluation of the safety of the repository after it is closed over a million-year period. So that is one part of the review process.

In parallel with that, parties who want to intervene in the proceedings—State of Nevada will be one; there will be others—they will submit what are called contentions to the NRC where they will pick specific issues in the license application and say, we do not agree with this, whatever the issue might be.

The NRC then has hearing boards that are set up that are independent from the staff. They will receive the contentions. We will have an opportunity to reply to them, say whether, you know, give some sort of reply to the hearing board. The NRC staff will have some chance to reply. The administrative law judges will then decide whether or not to admit those contentions on the docket for hearings; and then for those contentions that are admitted there will actually be hearings, and the judges will decide either in favor of the staff, the applicant, which would be DOE, or the interveners.

When that whole process grinds to its eventual end, eventually there is a decision by the full Commission itself as to whether or not to grant the license application.

Now, in terms of what would slow that process up, besides just the appropriations process, the DOE and the NRC, there are two things that have to happen that are still not done. One is when the Nuclear Waste Policy Act was written it gave the Environmental Protection Agency the responsibility to set the long-term radiation limits for the repository. EPA issued a rule twice that has been remanded by the courts, and they are in the process of finalizing a revision of that rule, which has not been issued yet. We keep hearing that is going to happen soon, but we don't know exactly when.

We do not need that standard to submit our license application. The NRC will need that standard issued in order to make a final determination that our repository design meets that standard.

Mr. REHBERG. Okay. Is it true that Nevada did, in fact, back in the mid-70s, support this project?

Mr. SPROAT. Yes, it is. In 1975 there was a joint resolution of the Nevada legislature, signed by the governor, that basically invited the Department of Energy to put the Nation's high-level waste repository in Nevada in exchange for a solar energy facility.

Mr. REHBERG. Have they done a commensurate rejection or change of that support?

Mr. SPROAT. I would say—I do not know whether or not they issued a formal resolution countermanding or withdrawing that, but once the Nuclear Waste Policy Act amendment was passed in 1987, the State's official position is to be anti-Yucca Mountain and do everything in their power to stop it.

Mr. REHBERG. In your mind, though, give me an estimate of Federal dollars that have been spent in Nevada that in essence is an economic development component of their State.

Mr. SPROAT. For this program, over its life which started with early site evaluations back in the 1970s up until now, we have spent just about a total of \$10 billion on the Yucca Mountain program. Not all of that has been in Nevada. However, the vast majority of it has, probably in the neighborhood of at least 6 to 7 billion.

Mr. REHBERG. So now that they have changed their position, there would be an opportunity for us to recoup that cost from the State of Nevada through their gaming revenues since they no longer support—

Mr. SPROAT. I do not believe that is a legal or political option at this stage of the game.

Mr. REHBERG. Thank you, Mr. Chairman.

Mr. VISCLOSKEY. Mr. Pastor.

Mr. PASTOR. Thank you, Mr. Chairman.

Good morning. I want to go back to the Yucca Mountain after reading your testimony. In the 2009, it is \$494.5 million. And it seems like you are not optimistic that that is going to happen.

Mr. SPROAT. Based on my experience the last 2 years, I would be—I have to say, I am very much appreciative of what this committee did last year to try to get us what we asked for.

Mr. PASTOR. But I think your optimism is lessened by your testimony, so—but you have a number of points that you want to accomplish in 2009 with that amount of money that would probably

be reduced. And I had a curiosity because some of the, I think, mandated expenditures——

Mr. SPROAT. Yes, that's correct.

Mr. PASTOR [continuing]. You put at the end, like paying the taxes to Nevada and funding agreements that you probably had for a long time to the States and regional groups.

Mr. SPROAT. Yes.

Mr. PASTOR. And then funding your responsibilities with just storage data, data storage systems.

Mr. SPROAT. Uh-huh.

Mr. PASTOR. I think those are things that probably have a greater importance than where you placed them in your points.

Mr. SPROAT. That could be.

The point I was trying to bring and how I set that up was that there is what I call the mission-critical activities——

Mr. PASTOR. Right.

Mr. SPROAT [continuing]. That my organization needs to execute to keep this program moving forward. I did not put the mandated requirements, the State of Nevada and the counties, in that same bin. They are just kind of like what I call the overhead costs of executing the program that is mandated by the law.

Mr. PASTOR. But like most budgets, those come off the top.

Mr. SPROAT. No. I understand. And in fact they do come off the top.

Mr. PASTOR. Okay.

Mr. SPROAT. But in terms of—from my management perspective, they are just there.

Mr. PASTOR. No. I understand. But in looking at it, they come off the top. So you have a certain amount that will probably be lessened; now you have these programs that are going to cut off the top.

So I guess the question I am getting to is, let's stay with 494, and you take the mandated costs, what I call "mandated," what do you have left, 390 or less than 300?

Mr. SPROAT. Instead of me guessing on the number, I prefer to get back to you.

Mr. PASTOR. Just give me a ballpark figure. Is that one-third of your budget?

Mr. SPROAT. No. It is a smaller percentage than that, because we have agreements to fund payments in lieu of taxes to Nye County, we have payments to the State.

Mr. PASTOR. Sure. What percentage would it be, more or less?

Mr. SPROAT. Probably about 35 percent.

Mr. PASTOR. So about a third. I was right, about a third. So then about two-thirds, then you follow the other points?

Mr. SPROAT. Yes.

Mr. PASTOR. One is to defend the license application. If you are going to submit the application in June, the likelihood is that the defense will not start probably for about a year.

Mr. SPROAT. No. That is not quite right.

Mr. PASTOR. Okay, enlighten me.

Mr. SPROAT. What will happen is, when we submit the license application in June, the NRC does what they call an acceptance review, and that will take about 3 months. And that is where the

staff goes through this 8,000-plus page application and they determine, have we answered all of the questions that they expect us to answer? And do we have sufficient information in there for them to do a more detailed technical review? That will take about 3 months.

Once that starts, then they immediately start sending us these RAIs that I talked about, requests for additional information; and then the intervening parties will be submitting contentions in anticipation of the hearings.

So we will be extremely busy and challenged, quite frankly, to answer both the requests for additional information from the staff and addressing the contentions from the hearing board and the interveners at the same time. And that will start in the fourth calendar quarter of this year.

Mr. PASTOR. So one-third of your budget is gone for mandatory. What percentage of your budget would go to that category?

Mr. SPROAT. I would say probably a minimum, a minimum of 25 percent. And the reason I am vacillating a little bit on that—

Mr. PASTOR. Twenty-five percent of the remaining two-thirds?

Mr. SPROAT. Yes. And the reason I am vacillating a little on that is because it is going to be very dependent upon the number of requests for additional information we get and contentions we get and the number and amount of man-hours we need from the scientists and the engineers on the technical side to address those.

Mr. PASTOR. And then you have the other ones. Begin detailed design?

Mr. SPROAT. Yes.

Mr. PASTOR. So we are down about 140 million that you have left. How much is that going to take?

Mr. SPROAT. That is the part of this program that is probably the most heavily impacted by this reduced funding request from what I showed the committee at \$1.2 billion last year.

To put the license application together, we need to have the design done to a sufficient level of detail for the NRC to review and answer the safety questions. But it is not the same level of detail we need to actually go build it to, which is much more detailed.

Mr. PASTOR. I understand that.

The question was, how much money are we talking about more or less?

Mr. SPROAT. In terms of—

Mr. PASTOR. To begin the design for the facilities required.

Mr. SPROAT. Just about the entire remaining part, except for maybe about 20 to 30 million, which we will be using internally within the DOE organization to staff it up and to strengthen it to be able to execute this program going forwards.

Mr. PASTOR. So about 120 million?

Mr. SPROAT. I would say that is probably a pretty good number.

Mr. PASTOR. So then you have the remaining about 20 million to do the rest?

Mr. SPROAT. Yes. That is pretty much right.

Mr. PASTOR. You have indicated that—well, if it is reduced, as you anticipate reductions, which one would probably become a less priority of the ones you—

Mr. SPROAT. As the funding is further reduced, we have the fixed costs, the overhead costs as I would call them; we have the license application defense, which is absolutely critical path—we will never build a repository if we do not get a license——

Mr. PASTOR. Right.

Mr. SPROAT [continuing]. So it would come out of everything else, which is essentially the design work. We would just have to slow it down. That will have an impact down the road on the schedule in lessening our ability to begin construction right away if we get a construction authorization from the NRC.

Mr. PASTOR. Now, in your testimony you also tell us that the administration has given us proposed legislation. Where is it?

Mr. SPROAT. Well, that is a good question.

Mr. PASTOR. I like to ask good questions. That is the crux of the problem, you know.

Mr. SPROAT. It is lost in committee.

Mr. PASTOR. Okay. Which committee?

Mr. SPROAT. I believe on the Senate side it is Senate Energy and Resources, and I believe over here it is probably in the House Energy and Commerce Committee. And the crux of that legislation is, we crafted it to be—to address all of the issues that were out there that we were aware of that could either stop or significantly slow down the repository going forward, issues like the funding issue with the Nuclear Waste Fund, issues like land withdrawal.

Going back to Mr. Rehberg's question, one of the issues that also still needs to be resolved is, even if the NRC says we are willing to give you an authorization to build this, the Secretary of Energy needs to have control of that land in perpetuity. And right now it is public land and it requires a land withdrawal act by the Congress to withdraw it from further public use. So that is required also; that is something else that that legislation addresses.

So there are a number of issues like that that this legislative package we sent up in the last Congress and again at the beginning of this Congress addressed to help us expedite moving this forward.

Mr. VISCLOSKEY. If the gentleman would yield for a second.

Mr. PASTOR. Yes.

Mr. VISCLOSKEY. Would the legislation also contain language on the waste confidence issue?

Mr. SPROAT. I believe it does. It does address waste confidence.

Mr. PASTOR. You described that the political willingness is weak at best.

Mr. SPROAT. That is my sense.

Mr. PASTOR. So you think it might slip from 2017 to 2020 now to—what is our problem in the Senate? Let me ask that question.

Mr. SIMPSON. Let me guess.

Mr. SPROAT. It is difficult to bring things to the floor in the Senate because of their rules.

Mr. SIMPSON. Good answer.

Mr. PASTOR. How do you see the House moving it since——

Mr. SPROAT. Well, and we—based on the discussions I have had with some staff, I feel very strongly the House is very supportive of trying to move this program forward. And they are somewhat frustrated, and—I guess that is a broad generalization.

Mr. PASTOR. Sure.

Mr. SPROAT. They are somewhat frustrated by the Senate's inability to move this issue forward.

And my own sense is everybody has somewhat of a wait-and-see attitude; that based on the difficulties the Department has had in the past with making progress on Yucca, I think the predominant sense is, let's wait and see if DOE actually gets its license application in, and let's wait and see if the NRC actually gives them an authorization to construct. And if that, in fact, happens, then we will go ahead and do something about this.

That is my sense. I may be wrong, but that is my sense.

Mr. PASTOR. Mr. Chairman, thank you.

Mr. VISCLOSKY. I will recognize Mr. Calvert, but would reiterate my concern about legislating away with confidence. I understand the impulse and the desire, but it is a physical problem we need to resolve as well.

Mr. Calvert.

NUCLEAR POWER 2010

Mr. CALVERT. Thank you, Mr. Chairman. I am also new on the committee, so I have some issues that I would like to bring up with Mr. Spurgeon.

What follow-up program are you planning after the Nuclear Power 2010? Would you provide for a summary of a new Idaho National Laboratory Electric Power Research Institute plan for light water reactor R&D?

Mr. SPURGEON. Yes, sir. We have a number of things that we are looking at that might not only provide for additional safety work on light water reactors, but get to the point of, what we have to do in order to—potentially extend the life of our existing light water reactor fleet beyond 60 years.

As my staff knows, I always joke that that is my number one priority is life after 60.

Mr. CALVERT. What impact has the recent 2008 National Academy of Sciences review of the Office of Nuclear Energy had on how your office operates today?

Mr. SPURGEON. I have to say, for the most part, we find a great deal to agree with in terms of the report of the National Academy of Sciences. First of all, they were very supportive that the Nuclear Power 2010 program should be fully funded. And if you will notice in this budget request that we have, we are fully funding our Nuclear Power 2010 program.

The second basic issue that they had was that we need to make sure for our advanced research and development programs that they do proceed in a step-wise fashion; and we totally support that. You need to go from bench scale to engineering scale to prototype scale prior to getting to a large-scale plan for implementation.

I think there was a little bit of confusion about when we talked about needing to go to commercial scale. We were not talking about jumping over for advanced technologies going to commercial scale, we were talking about the ability to take what is available internationally and make minor variations of that in order to get started with things like recycle in the near-term time frame, while we are at the same time proceeding in a step-wise fashion to develop

the fast reactors and the advanced recycle processes that we would look to for the ultimate implementation of the advanced fuel cycle initiative concept.

Mr. CALVERT. Finally, I do not know if you have the answer to this, but when do you think that a license to build a nuclear reactor is going to be—a new nuclear reactor in this country? Do you think there will be a license issued before the end of this administration?

Mr. SPURGEON. There are currently nine combined operating licenses that have been submitted by nuclear plant operators to the Nuclear Regulatory Commission that would cover some 15 plants. Those are already submitted. And we are looking at perhaps 10 more being submitted in this year.

The Nuclear Regulatory Commission's announced schedule for the first of these combined operating license applications is a 42-month schedule. So we are talking about 3½ years from the time these were submitted; and we had, you know, as I said, we have had nine of them submitted this year.

We certainly hope, and that is our whole intention, that after the first ones go through the process that those that follow can basically reference the first ones for each individual reactor technology so that that time can be shortened substantially.

Mr. CALVERT. I guess just for the committee's edification, when do you think that, at the soonest, we could possibly see a new nuclear reactor being built within the United States?

Mr. SPURGEON. And go into operation, sir?

Mr. CALVERT. Yes.

Mr. SPURGEON. 2015.

Mr. CALVERT. Thank you.

Thank you, Mr. Chairman.

Mr. VISCLOSKY. Mr. Berry.

Mr. BERRY. Thank you, Mr. Chairman.

I would first of all like to associate myself with the kind remarks and recognition that have been extended to the ranking member and former chairman, Mr. Hobson, of this committee. He is most deserving of all of the kind things that have been said about him. And let's hope that that legacy, Mr. Chairman, does not turn into an ice sculpture when you leave.

Mr. HOBSON. I know what you are talking about.

Mr. BERRY. I think you made great contributions in the way you have worked, and I certainly appreciate it.

I would also associate myself with the remarks and the comments that the ranking member made about these matters. I have been on the committee long enough to know that I am not a nuclear physicist and probably never am going to be. It just seems almost like Groundhog Day each year. When we go through this, we see timelines moved, and just over and over again there is never enough money. Sometimes we are told that even if you give us more money, we cannot do it any faster than that. I know that some of that may be correctable or may be fixable, but some of it may not be.

My question, I think that whole Yucca Mountain thing just drives me crazy. I do not see what the problem is. From the information that I have seen, if we had it ready to go today and the

ability to start storing waste there, we would have half enough capacity for what we need to do. Is that correct?

NUCLEAR WASTE POLICY ACT

Mr. SPROAT. With the current administrative limit that the Nuclear Waste Policy Act put on us of 70,000 metric tons, that is correct.

Mr. BERRY. What are the plans for dealing with that?

Mr. SPROAT. The Nuclear Waste Policy Act requires the Secretary to provide to Congress a report on the need for a second repository by January 1st of 2010.

We are going to submit that report to the Congress probably in the next 3 months, shortly after the license application for Yucca goes in. And we are going to present to Congress not only the analysis of when Yucca will be fully committed—which, by the way, is in the spring of 2010; from the fuel being discharged from reactors, the existing reactor fleet in the spring of 2010.

Not only will we give Congress that analysis, but we will present Congress with several options of what to do about the issue, one being, obviously, moving forward with a second repository program—which, by the way, is not going to be our recommendation—and the other is to remove the administrative 70,000 metric ton limit on Yucca. Because based on the scientific work we have done, the analysis we have done, the environmental impact studies, we know it can hold significantly more than that.

So when we give you that report in a couple of months, you will be able to see not only what is driving this issue, but we will give you some options and recommendations about what to do about it.

Mr. BERRY. Thank you, sir.

Thank you, Mr. Chairman.

Mr. VISCLOSKY. Mr. Simpson.

COMPETITION

Mr. SIMPSON. Thank you, Mr. Chairman.

Mr. Spurgeon, thanks for coming here today, and thanks for the work you have been doing in a tough environment, I know. As you might have guessed from some of the comments that have been made earlier, there is oftentimes a feeling in Congress, correctly or incorrectly, that DOE does what it wants to do and ignores what Congress says in their language. They can find somebody to interpret it how they want and et cetera, et cetera, et cetera.

I think some of that feeling exists currently with the language that you mentioned in your testimony about competing the SEI funds with universities and other labs, the \$150 million for competition. Could you talk a little bit about that? I noticed you said that you are getting ready to go out for competition on that.

And what exactly that means. What is the implication for the labs? What is that going to do to the program?

Mr. SPURGEON. Let me start by making it very clear that from the Secretary's standpoint, certainly from my standpoint, I am all for competition. I would freely admit that we did not look at the language that was in the report of the 2008 bill that came out—whenever it was, December 26th or thereabouts—and interpret it

the way in which we now understand it was intended to be interpreted.

But I might add to that that perhaps members of this committee did not also understand the full import of what that language implied. And that is because it was directing us to compete half of our R&D budget in an open competition, an open competition to include national laboratories, industry, and universities. And so why I say that perhaps we did not understand it thoroughly at the time is as a matter of practice—it is not an absolute, but as a matter of practice we do not cause universities to compete against national laboratories for their funds. It is kind of like putting, you know, a lightweight in the ring against a heavyweight. You kind of know who is going to win.

And we know that this committee's intention—we believe that this committee's intention has always been to provide additional support for universities, and we support that. As a matter of fact, in the 2009 budget you will see we want to set aside 20 percent of the work for universities.

But the issue at hand really came down to, how do you do that in the middle of a fiscal year? And I have to say when I look at all our spreadsheets and financial data, that was assembled for me by our staff and our financial people, I get a headache.

And so I go back to something very simple.

Mr. HOBSON. That is kind of like we do when we see OMB's stuff.

Mr. SPURGEON. That is, we had a \$180 million budget in round numbers. There is \$30 million of directed work, that is two \$15 million earmarks for hot cell improvements at laboratories, leaving us with a \$150 million budget.

We were on a \$10-million-per-month spend rate because we were on the lower of the House and the Senate until the omnibus bill was passed. So by the time that that bill was passed, we had spent \$30 million.

In addition, when you want to then re-go through some sort of a cutback in the middle of the year, the people that are doing that work, we cannot just beam them someplace. There has to be a wind down of that.

So I can say that, you know, where we are today is an enormous challenge. But even had we understood correctly what the intent was, it would take at least 2 months for us to wind down that program. And so we were looking at—you know, you are looking at perhaps another \$20 million that would be necessary—in fact, perhaps more, because if those people cannot be reassigned to some other work, then you end up with other kind of costs.

So in round numbers then you are looking at us having \$100 million of budget authority going forward for the balance of the time period where one would compete. To compete \$75 million required us, or would require us to remove that or deobligate that \$75 million. That brings us down to about \$25 million of unencumbered funds.

If you just look at what overhead we have per month to be able to manage this program and throughout the laboratories and so forth, that is about a million and a half a month. And so we would have to—unless we are just going to totally shut everything down, that would be about \$9 million. That leaves us \$16 million of avail-

able funds. That would cause us to go from a \$10-million-per-month spend rate to roughly a \$2.6-million-per-month spend rate. That is a substantial impact that cannot be made up by any less travel or whatever kind of activity. So, in addition—you know, so that would impact everything.

That means that it is going to impact universities in the middle of a fiscal year. That would mean that it is going to impact the industry work that we have going on. And that would mean that it is going to impact necessary work that we have going on in our national laboratories.

So, from that, what we have been doing is trying to look at how can we meet the intent that Congress wants; and we are not arguing with the intent, but how can we do that practically. And to do that practically means that we can this year go out, and what we are doing is, we are intending to go out with a competition with 2008 money of \$15 million; and we are making plans now to go out now so that we can be ready for the beginning of the next fiscal year with funds to go out for up to \$150 million.

I do not know how much funds we are going to have available in 2008, but our problem is, if we are going to do open competitions, then we have the additional challenge of having to do that in advance; otherwise, we are always behind the curve. And I would tell you practically the idea of putting our national labs in the same pot with industry and universities, in addition to, I think, making it more difficult for our universities, which is not what we want; it takes away our ability.

We used the Idaho National Laboratory basically to help us manage the program. They are our lead laboratory. If now Idaho National Laboratory has to go in the same competitive pot, we cannot use them anymore because we are going to have to do that work ourselves.

So what we are trying to do and what we have tried to do is not ignore Congress by any means or stretch of the imagination, but say, look, we understand what you want, we tried to put together and we are putting together a program to go forward that recognizes where you are trying to go with increased competition. I recognize you want to bring more industry involvement. I support bringing more industry involvement. The Department supports bringing more industry and university involvement, especially. And so how do we do that without playing 52-card pickup here in the middle of a fiscal year?

That is what our objective is.

GNEP

Mr. SIMPSON. I appreciate that. It is a problem we need to resolve, and do it as quickly as possible.

Speaking of Congress, what Ranking Member Hobson said—skepticism with DOE occasionally, let me ask you a couple questions about GNEP. You know, I often criticized DOE when I first came on this committee 6 years ago for not having a long-term plan, for not being able to explain to me where we were going to be next year, 5 years, 10 years down the road. And I complimented DOE because GNEP, either perfect or imperfect, was at least a

plan that I could look at and say, this is what we want to do in the arena of nuclear energy.

There were aspects of it that private industry did not necessarily support because that was not their ball game. And I understand that. But overall, it seemed like a fairly decent proposal of where we wanted to take nuclear energy in this country, and in the world really. And as you said, there are going to be an awful lot of nuclear countries in the future. And how can you deny—you know, if we have nuclear energy, how can we deny someone else who wants to have nuclear energy as part of their energy source?

I understand that there are 22 international partners currently in this. And they, as I understand it, are very supportive of the concept of GNEP and where we are headed. And yet we have had a difficult time selling GNEP to Members of Congress. I do not know if it is because of the lack of credibility, or the skepticism that comes with Congress of DOE, or if it is not agreeing with the program. But as you know from the budget that you have received in the last couple of years relative to the request, it has been substantially different; and your ability to do what you wanted to do there has been hampered by not having the resources that you requested.

So I want to ask you, what do you think the source of skepticism is in Congress and what can we do to—I do not want to say “get Congress on board,” but to be more supportive of what we are doing long term here?

I think anybody that rationally looks at the energy future—and I think everyone here has mentioned it: Nuclear energy is going to be part of our future. If you are concerned about global warming, nuclear energy is definitely a part of the future. If you are worried how we are going to store nuclear waste and how we are going to get rid of the nuclear waste, reprocessing is a part of our future. We need to get on with some of these demonstration projects and get them under way.

And yet our committee has been very reluctant because we are afraid you are moving at a more rapid rate and you are going to go out and actually construct something and get us down a road that we may not want to go down.

What is your response?

Mr. SPURGEON. Well, I think it is a number of different things. But there is probably a fundamental underpinning to some of the skepticism associated with GNEP that goes back to when it was rolled out.

As an aside, I would say I have had the occasion a couple of times to go through and describe what we are trying to do from the standpoint of both domestic and our international activities without ever using the word GNEP. And when I got it all done, you know, it was sort of like, well, gee, that is logical and that is a great vision, and you are going about it the right way, you know, we have to get people together with us. We cannot do this as a Lone Ranger if we are going to get some international order to how we are proceeding forward.

I get all the way to the end where they say, it is a great idea; and then I say, by the way, this is GNEP, and the response I get is, I do not like GNEP. So there is an issue there.

But part of it, one piece of it is the word “reprocessing.” Because that has been a word since 1978, and most of the people that grew up in the nonproliferation community have had a basic aversion to anything that says reprocessing or MOX associated with it in the vernacular. So there is that natural pull-back.

And there still are a number of people that believe that, you know, if the United States does not reprocess, if the United States does not recycle in its light water reactors or fast reactors later on that other people will not either, that that will happen. Obviously, that has not proven to be the case, but nonetheless there still remains that feeling out there in some quarters.

But I would say that I do not think we have done as good a job of basically explaining it as we could. I think we maybe confused people when we talked about the need for long-term R&D, and in the next breath will say that we need to also in the interim move forward with commercial scale facilities. And people put those two together and they do not fit together.

GNEP, as it was rolled out, is a long-term program. It involves recycling using fast reactors. And basically the long pole in the tent is, when are you going to have fast reactors? And when I say that, I do not mean the demonstration plant that you could have in the 2020s or whatever time frame, depending upon funding. But when are you going to have a large number of commercially viable fast reactors in operation in the United States? And that is decades away.

Because you have to not only go through the whole research and development and demonstration process, but then you have to go through the process of cost reduction; which is like what the light water reactors have been doing to get them competitive with light water reactors, before you are going to have a substantial quantity of those that can then recycle this fuel.

So, yes, the AFCI program is an R&D program. That is what it is designed to be; that is what it is. When we talk about something other than that, we are talking about an incremental change to a technology that is available on the international scene. So I think it is partially that in terms of the confusion.

But let me add one other thing that we need desperately in this country. And since you are asking the question, I will use the opportunity to divert to that.

Our whole nuclear R&D infrastructure has atrophied. And I am not just talking our human capability in this country, but our facilities. You know, it is one thing to encourage the education of new engineers and scientists, which we desperately need to do; but the second thing is, we need a place for those people to work. And we need machines; we do not have advanced reactor machines in this country anymore for people to operate on. We do not have an advanced fuel cycle facility—I am talking about an R&D facility that can support all reactor types. Those things are desperately needed if we are going to rebuild the infrastructure.

If you go out to Idaho, it is littered with the facilities that were very important to our nuclear development in the past. You know, the TREET facility, the PBF, you know, you just go down the list. We do not have those anymore, and we need to reestablish that capability.

So when I talk about wanting to build something in the advanced concept today, I am talking about building necessary research facilities: A NGNP demonstration plant, a fast reactor demonstration plant, an advanced fuel cycle facility, test facility that can work on both liquid metal and gas reactor fuels. If we do not have those, it is just not good enough to have a nice building and desk for our new engineers to work behind. They need facilities.

Mr. SIMPSON. I appreciate that. And I will ask some more questions as we go along.

But I appreciate the fact that you addressed the infrastructure needs, and the money you sent out to Idaho to help with the infrastructure needs, because you are right, we do have to have these facilities. And they are all essential, I think, if a nuclear renaissance is a reality.

And so I appreciate your work on that, but I have some more questions I will ask a little bit later.

Thank you, Mr. Chairman.

Mr. VISCLOSKY. I am going to recognize Mr. Olver, but would point out that for some years now the administration, talking about the need for new bright minds to be educated in nuclear physics, has not asked for money for the educational program. And this committee had to move it to NRC so that moneys would be provided, and we included the money for that education. There are a lot of existing facilities, nuclear in nature, and the administration did not ask for money for upgrades in investment for efficiencies and improvements in existing nuclear facilities.

So I would just make that observation for the record vis-a-vis, let's go build something new, which might be one reason for some skepticism.

Mr. Olver.

OFFICE OF NUCLEAR ENERGY FUNDING

Mr. OLVER. Thank you, Mr. Chairman. Thank you very much.

Mr. Secretary, you have charge of the Office of Nuclear Energy?

Mr. SPURGEON. Yes, sir.

Mr. OLVER. And you said in your testimony—I think the written testimony says, a total of \$1.4 billion for nuclear energy activities. Is that the whole of the budget for the Office of Nuclear Energy? Is that the only thing that comes under your jurisdiction?

Mr. SPURGEON. That is the whole of the budget.

But if you notice, within there is a substantial chunk—almost a third of that is under the category of other defense activities, which is where the money for the MOX program was put in the 2000—MOX construction program was put in the 2009 budget.

Mr. OLVER. It seems to me there have been a number of reorganizations. I have been plowing through, back and forth, over the congressional requests; and I find under “total for nuclear energy” a substantial drop—853 million; it is more than a hundred million drop from the previous year, which represents a reorganization, I guess.

And then I go over and find a uranium enrichment decontamination fund. Is that under you?

Mr. SPURGEON. No, sir, that is under the Environmental Management Organization.

Mr. OLVER. Okay. All right. Then I do not know where to find things.

Is the nuclear waste disposal, is that under your office?

Mr. SPURGEON. No, sir, that is Mr. Sproat. That is Yucca Mountain.

Mr. OLVER. And the director of the——

Mr. SPROAT. Office of Civilian Radioactive Waste Management.

Mr. OLVER. Civilian Radioactive Waste Management is not under the Office of Nuclear Energy?

Mr. SPURGEON. No, sir, it is not.

Mr. OLVER. Okay. All right.

So that nuclear waste disposal, is the total budget that is under your responsibility 247 million? Or the request?

Mr. SPROAT. The total request is 494.7 million. And there is a civilian portion and a defense portion.

Mr. OLVER. I see. So there are things under defense that are under either of your—that is why I am trying to figure out where this is headed.

The way these things are presented is about as opaque as it is possible to be. It certainly is not possible for anybody to do, without an enormous amount of digging, which we as individual Members do not have the capacity to do. Though the subcommittee staff will tell me that they know exactly what is going on, and I am sure they do.

All right. I am going to leave that for a moment. I wanted to, if I can find it—my understanding is we have 104 reactors, functioning reactors, right now, power reactors?

Mr. SPURGEON. Yes, sir, we do.

Mr. OLVER. How many are in the process of decommissioning? None of those?

Mr. SPURGEON. None of those.

Mr. OLVER. How many reactors that were previously functioning are in the process of decommissioning or are fully decommissioned? Do we have any fully decommissioned?

Mr. SPURGEON. Yes, we do. Yes, we do, and I will have to get you the number. Up in your area the Yankee Atomic Plant in Rowe, Massachusetts, is fully decommissioned, other than there is still some spent fuel.

Mr. OLVER. I realize that I had given you an out by asking “process of decommissioning.”

I really needed to know how many are decommissioned fully and how many are in process, somewhere along the way, are outside the 104.

Mr. SPURGEON. I will give you that for the record. I know a number of them just ticking them down, but I have not tried to add up that number.

[The information follows:]

REACTOR DECOMMISSIONING

There are currently 14 nuclear power plant units that have permanently shut down and are in some phase of the decommissioning process in the U.S. These are:

- Dresden - Unit 1 (Dresden, IL)
- Fermi - Unit 1 (Newport, MI)
- Humbolt Bay (Eureka, CA)
- Indian Point - Unit 1 (Buchanan, NY)
- Lacrosse (LaCrosse, WI)
- Millstone - Unit 1 (Waterford, CT)
- Nuclear Ship Savannah (Newport News, VA)
- Peach Bottom - Unit 1 (Delta, PA)
- Rancho Seco (Sacramento, CA)
- San Onofre - Unit 1 (San Clemente, CA)
- Three Mile Island - Unit 2 (Harrisburg, PA)
- Vallecitos - GE VBWR (Sunol, CA)
- Zion - Units 1 and 2 (Waukegan, IL)

In addition, ten nuclear power plants have completed the decommissioning process and have their operating license terminated. These are:

- Big Rock Point (Charlevoix, MI)
- Connecticut Yankee (Haddam Neck, CT)
- CTVR (pressurized tube, heavy water) (Parr, SC)
- Fort St. Vrain (Platteville, CO)
- Maine Yankee (Bath ME)
- Pathfinder (Superheat BWR) (Sioux Falls, SD)
- Saxton (Saxton, PA)
- Shoreham (Suffolk Co., NY)
- Trojan (Portland, OR)
- Yankee Rowe (Franklin Co., MA)

Decommissioning Status for Shut Down Power Reactors (As of Jan. 2008)

Reactor	Type	Thermal Power	Location	Shutdown	Status	Fuel Onsite
Big Rock Point	BWR	67 MW	Charlevoix, MI	8/97	ISFSI Only	Yes
CVTR	Pressure Tube, Heavy Water	65 MW	Parr, SC	1/67	License Terminated	No
Dresden I	BWR	700 MW	Morris, IL	10/31/78	SAFSTOR	Yes
Fermi I	Fast Breeder	200 MW	Monroe Co., MI	9/22/72	SAFSTOR/DECON	No
Fort St. Vrain	HTGR	842 MW	Platteville, CO	8/18/89	License Terminated	Yes
GE VBWR	BWR	50 MW	Alameda Co., CA	12/9/63	SAFSTOR	No
Haddam Neck	PWR	1825 MW	Haddam Neck, CT	7/22/96	ISFSI Only	Yes
Humboldt Bay 3	BWR	200 MW	Eureka, CA	7/02/76	DECON	Yes
Indian Point I	PWR	615 MW	Buchanan, NY	10/31/74	SAFSTOR	Yes
LaCrosse	BWR	165 MW	LaCrosse, WI	4/30/87	SAFSTOR	Yes
Main Yankee	PWR	2772 MW	Bath, ME	12/96	ISFSI Only	Yes
Millstone I	BWR	2011 MW	Waterford, CT	11/04/95	SAFSTOR	Yes
N.S. Savannah	PWR	80 MW	Norfolk, VA	1970	SAFSTOR	No
Pathfinder	Superheat BWR	190 MW	Sioux Falls, SD	9/16/67	DECON NRC Part 30	No
Peach Bottom I	HTGR	115 MW	York Co., PA	10/31/74	SAFSTOR	No
Rancho Seco	PWR	2772 MW	Sacramento, CA	6/7/89	DECON	Yes
San Onofre I	PWR	1347 MW	San Clemente,	11/30/92	DECON	Yes

Reactor	Type	Thermal Power	Location	Shutdown	Status	Fuel Onsite
			CA			
Saxton	PWR	28 MW	Saxton, PA	5/72	License Terminated	No
Shoreham	BWR	2436 MW	Suffolk Co., NY	6/28/89	License Terminated	No
Three Mile Island 2	PWR	2772 MW	Middletown, PA	3/28/79	SAFSTOR*	No
Trojan	PWR	3411 MW	Portland, OR	11/9/92	ISFSI Only	Yes
Yankee Rowe	PWR	600 MW	Franklin Co., MA	10/1/91	ISFSI Only	Yes
Zion 2	PWR	3250 MW	Zion, IL	2/98	SAFSTOR	Yes
Zion I	PWR	3250 MW	Zion, IL	2/98	SAFSTOR	Yes

Mr. OLVER. In the budget this past year there was language in the report, in the 2008 budget, which reads in part, “demonstrates that DOE can move forward in the near term with at least some element of nuclear waste policy”; and then, “The department should consider”—well, directed—the whole thing says, “The department is directed to develop a plan to take custody of spent fuel currently stored at decommissioned reactor sites to both reduce costs that are ultimately borne by the taxpayer,” and it goes on.

And the suggestion was made to possibly consolidate spent fuel from decommissioned reactors either at existing Federal sites or existing operating reactor sites or competitively selected interim storage sites.

Is there any progress that has been made? I think that is probably in your bailiwick.

Mr. SPROAT. I have that, sir.

That report is being drafted and it is undergoing final revision. We will get it up here to this committee, since you asked for it, probably right around the beginning of June.

Mr. OLVER. Am I covering the same ground somebody else has covered?

Mr. SPROAT. No.

Mr. OLVER. Okay. You think we will have it by the beginning of June?

Mr. SPROAT. In early June. And what you will see in that report is, first of all, a description of what the Department currently has the authority to do regarding spent nuclear fuel and removal from the shut-down reactors.

It will also talk about what the Department has done in the past in terms of attempts to move that fuel and what successes or lack thereof we have had.

Mr. OLVER. You are not able to give us a hint of what the recommendations are going to be? Is it going to be just leave them where they are?

Mr. SPROAT. No. No. What we are going to try and do is make sure the committee fully understands what we currently have capability to do under current legal authority, what additional legal authority we would need in order to be able to do that. And we would give you an estimated plan in terms of cost, schedule, and recommendations that, if you want to do it fast, here is the kind of authorities we would need in order to be able to expedite it and do it as fast as we could.

So we are going to try to give you all that information.

Mr. OLVER. All right. So we are going to see it in a couple months in any case?

Mr. SPROAT. Yes.

Mr. OLVER. This very pregnant paragraph in the report ends with a sentence reading, “The Department should engage the sites that volunteer to host GNEP facilities as part of this competitive process,” which then leads me to ask a few questions.

Mr. Simpson had already—he understands, and you nodded your head, Mr. Secretary—that there are 22 international partners. In your written testimony you point out that there are 31 countries that operate reactors, producing 372, I think that is—what does GWe mean?

Mr. SPURGEON. That is a thousand megawatts. So, in effect, if you had a thousand megawatt plant——

Mr. OLVER. So GWe is a gigawatt?

Mr. SPURGEON. That is a gigawatt.

Mr. OLVER. Okay. I wondered what the “e” was supposed to be.

Mr. SPURGEON. Gigawatt electric.

Mr. OLVER. Gigawatt electric?

Mr. SPURGEON. Yes.

Mr. OLVER. You carefully gave that projection for what would be over some years for 55 countries doing so, rather than only 31. But earlier on the U.S., you did give us the number—I guess you gave the capacity or the production in 807 billion kilowatt hours, which does not look—I mean, that is not the same.

It is billion kilowatt hours. That is not 807 gigawatts. Eight hundred billion kilowatts would be——

Mr. SPURGEON. I suppose this is like the budget table, you know, where we are trying to make it more difficult for you. Hopefully, that is a joke, not an honest assessment.

Mr. OLVER. I will take it as a joke.

I can understand, but it seems to me it is being opaque if you are giving a series of comparisons and you do not give the comparisons in the same units.

Mr. SPURGEON. Point well taken.

Mr. OLVER. What is the gigawattage that our present 104 are producing?

Mr. SPURGEON. Approximately 100 gigawatts.

Mr. OLVER. Oh, 100 gigawatts. Okay. I guess I should have inferred that would be something close to each plant produces about one gigawatt.

Mr. SPURGEON. Yes, sir. But let me tell you, in defense of the folks that write all these things for me—in defense of that, what we are trying to point out is that while the capacity of our nuclear reactors in this country is about 100 gigawatts, what has been happening over time is, because of increased efficiency of operation, the amount of total kilowatt hours that is produced by those plants—because the gigawatt is the capacity, but then that is multiplied by how much time it operates and at what power—what has happened is that we have become more efficient over these last 10 years by a great deal in operating our nuclear plants, to the point that the amount of power that they produce is substantially more today than it was 10 years ago, even though the plant itself is the same.

Mr. OLVER. I intended to ask you, and I realize I am out of time here, and I will sit around and wait until another round, but somewhere within just the last few days, within the last 10 days or so, I saw an article which said that since the—I cannot find my note on it here, as I am filing back and forth—that since we dropped the first bomb on Hiroshima in 1945, 10 percent of all the energy used in the world has gone into the production, development, redevelopment, retooling, changing the warheads and so forth of the nuclear facilities, nuclear weapons systems that have gone into the Cold War and the development of the nuclear weaponry of the five major powers.

I suppose they meant to include anybody who has got weaponry, so others that have it as well.

Have you seen that?

Mr. SPURGEON. I have not seen that, and so I cannot speak to the precise number. But a key to the development of nuclear weapons was the enrichment of high-enriched uranium and the processes—

Mr. OLVER. Very energy consumptive.

Mr. SPURGEON. Very energy consumptive of the old processes that were used for most of the time when we were building high-enriched uranium.

We are no longer enriching uranium to weapons level in the United States.

Mr. OLVER. But the number is an absolutely stunning number, in essence.

Mr. SPURGEON. Yes.

Mr. OLVER. And, yeah, we may have found more efficient ways of doing this stuff—

Mr. SPURGEON. In fact, we are not doing it at all anymore.

Mr. OLVER. I do not know exactly how much, but that is an absolutely startling number.

Mr. SPURGEON. Centrifuges today, the gas centrifuge consumes about 5 percent of the amount of power to produce a given amount of enriched uranium as did the old gaseous diffusion plant. So that gives you an idea how much more energy efficient the enrichment process has become.

But when you go all the way to very highly enriched uranium, it does take an enormous amount of energy, if using a gaseous diffusion plant, to make that weapons-grade material.

Mr. OLVER. I will stop there. I will come back later. Thanks.

Mr. VISCLOSKY. Mrs. Emerson.

RECYCLING SPENT FUEL

Mrs. EMERSON. Thanks, Chairman.

Thank you all for being here today. I want to ask Secretary Sproat a question about recycling or reprocessing. Recycling spent nuclear fuel will, I mean, technically reduce the amount of waste destined for a repository, but we are still going to need radioactive waste repositories, correct?

Mr. SPROAT. That is correct.

Mrs. EMERSON. So how will adoption of recycling technologies affect the need for sites such as Yucca Mountain?

Mr. SPROAT. Well, first of all, as you point out in your question, if we were to move to full recycling and closing the nuclear fuel cycle, we still need a deep geologic repository. The countries that are currently doing recycling, like France, Japan, they are all pursuing a deep geologic repository for their high-level waste stream that comes out of the recycling process. So that is a given.

One of the key things, though, about the recycling process is that while it does reduce the amount of high-level waste, it does produce significant amounts of greater-than-class-C waste, so there are other waste streams that come out of it.

If you think about taking multiple nuclear fuel rods and recycling them to create a new nuclear fuel rod for an advanced reactor, you still have a volume of material that comes out of the waste stream from that process that has to go somewhere. So just in

terms of volume, while the toxicity may be reduced and the amount of high-level waste may be reduced, there is still a significant waste stream that comes from that process that needs to go somewhere.

Mrs. EMERSON. So then you will have to keep track of all those materials. Well, and how do you deal with the logistics of moving those? Just—we are obviously talking in a hypothetical fashion here. You move it now; we just do not know about it.

Mr. SPROAT. Well, it is not that clandestine. There have been literally hundreds of shipments of both commercial spent nuclear fuel as well as defense spent nuclear fuel and high-level waste across the country, incident free, for decades. And the regulatory regime is set up, the transportation infrastructure is set up. This is something we know how to do and know how to do safely and have been doing for a long time.

So it is a bit of a misconception that the public, quite frankly, has that we do not know how to move these things, we do not know how to do it safely, and it has never been done before. It is just not true.

Mrs. EMERSON. But given—I mean, hypothetically again, if we move more toward a recycling regime, will we not—I mean, so we may need more Yucca facilities or something like that. And if we are already having the trouble that we are having now with perhaps getting agreement on using Yucca as a site, what in the world is the backup plan?

Mr. SPROAT. Well, in terms of the backup plan, so to speak, we have an issue in this country today. If you think about nuclear waste, there is not only the high-level nuclear waste that the law says is currently destined for Yucca Mountain, but there are less—other lower levels of nuclear waste, class A, class B, class C and greater than class C. We do not have in this country designated facilities to dispose of those waste streams yet. And, quite frankly, one of our dilemmas is what to do with some of that.

And so there is the issue of not only the back end of the nuclear fuel cycle and the high-level waste issue which is at Yucca, and we have the transuranic wastes going to the Waste Isolation Pilot Project in New Mexico, but the other commercial-level facilities that are currently in place for class A, class B and class C, they are getting filled and they are having difficulty finding places that want to host another facility for those.

So we do have some issues.

Mrs. EMERSON. And how will we resolve them then?

Mr. SPROAT. I think one of the biggest issues—now I am talking personal opinion and observation—one of the biggest issues is the “not in my backyard” scenario. And while all of us, you know, think we have our favorite place that obviously wants to welcome this facility—Nevada was one of those areas, too, at one time. And so, unfortunately, because of the long period of time it takes to develop these facilities and to license them, my observation of the political process is that eventually local opposition will develop and can find a way to slow things down.

So it is a dilemma that I am not sure I have a very good answer for in terms of how you overcome that.

Mrs. EMERSON. Go ahead, David.

Mr. HOBSON. Why do you not put a competition on the street? You know, there are people out there. We did this, and there are people who say, let us take a look at it.

Mr. SPROAT. Sure.

Mr. HOBSON. We might be willing to do it.

We have one of the greatest formations in this country. It is in a number of States, and the WIPP has been a wonderful success.

There was a politician the other day who suggested that it might be used as a model for something else—not a member of this body, I might add. If you allow people the opportunity—and what was the thing for which we put the competition out—interim storage—there will be a number of people who come forward and say, we are interested.

I think we defeat ourselves before we start, Mr. Sproat, by saying that the NIMBY factor is there. No question, there are certain parts of this country that are not going to take this stuff. There are other parts that will stand up and say, it is jobs in our area; it is clean, and it works. We have a model; WIPP is a great model.

Mr. SPURGEON. Mr. Hobson, we have done that, as you know, and ended up with 11 sites that did volunteer. Two of them happened to be in the general facility of where WIPP is.

And the other thing we do find with respect to the acceptance of nuclear facilities—this includes reactors, and I think it could be extended to fuel recycle facilities—is those people living nearest ones that are already operating are the most supportive. You know, we are looking at polling data that would show, something like 85 percent of people living near a nuclear facility are supportive of nuclear power and that kind of a facility. It is folks that are not—do not have the experience with it that have a fear factor associated with it.

So can we move forward? The answer is yes. And can we look at downstream, you know, with when you do recycle, you do create a waste form that does not have to be retrievable. In so doing you can have many alternative geologies that you can then consider that might be both less expensive and perhaps more acceptable to the local population.

Mrs. EMERSON. When we were talking at the beginning, at the outset, of both France and Japan looking for deep storage facilities, are they facing the same kinds of public opinion issues that we are?

Mr. SPROAT. Yes, they are. France has done a very good job, in my opinion, in terms of laying out a multiyear plan, laid out by their assembly, their general assembly, that they are following, and—but they have not selected their final repository site. They are still studying it.

Japan is a very interesting case study in that they looked for volunteer communities because they felt it is very important that the local community embrace the idea of having a high-level waste repository. They actually had a town volunteer. The mayor was voted out of office 6 months later, and on the basis of—the anti-nuclear candidate came in and basically kicked him out.

Mr. HOBSON. Tell her about the Swedes and the Finns.

Mr. SPROAT. The Swedes and the Finns—in fact, I am going there in 2 weeks. They have—of course, they only have two nuclear

plants or three nuclear plants in their country—and they are planning on putting their repository on one of those sites. And as Dennis said, the local population around those plants are very familiar with nuclear, they are very comfortable with them, and they kind of have a little bit of ownership about the nuclear waste that is already there, so they do not have a big problem with putting it underground permanently in that facility.

I am not sure that example is directly translatable to us in our culture and our 104 nuclear plants.

Mr. SPURGEON. The difference, though, is that in Japan and in France they do take their used fuel and they do process it. And so what they, in effect, are doing is interim storage on the back end——

Mrs. EMERSON. I see.

Mr. SPURGEON [continuing]. Where they go through and process it, create vitrified glass logs and then store those glass logs on site in a—it looks like a great big hockey rink is what it looks like, but you can walk in there and literally walk on top of all the high-level waste generated by the French nuclear program since it began in one kind of a facility.

Mrs. EMERSON. And there really has not been a huge public outcry at all, has there?

Mr. SPURGEON. No, not in the area of La Hague.

Mrs. EMERSON. Thank you very much.

Mr. VISCLOSKY. Mr. Ryan.

Mr. RYAN. Thank you, Mr. Chairman. I just wanted to follow up on one of the questions because I did not quite understand the answer.

As far as sheer space for the waste, what would be saved by the recycling process? I mean, you said there was all this other ancillary waste that comes about. From just sheer numbers, sheer space, what would we save through recycling?

Mr. SPURGEON. It depends on the medium in which you store the waste. If you are just talking Yucca Mountain, you are perhaps more heat-limited than you are space-limited relative to how much space that it might take.

But if downstream you are then looking at—because Yucca Mountain someday is going to be full, whenever we get to that. If you are looking at storing a product that might be a vitrified glass form, there are other formations that you could use that would not be so limiting relative to space or to migration of radio nucleides from it.

Mr. RYAN. So it would take up as much space, but it would not have all the complexities of Yucca Mountain?

Mr. SPROAT. Yes. That is a good way of looking at it.

Mr. RYAN. Thank you.

Mr. SPROAT. It would not be as toxic and have as long-term toxicity as the high-level waste form we currently have.

Mr. RYAN. Okay.

One of the other questions with Yucca getting pushed back now, you do not have access to the Nuclear Waste Fund, and you are saying that that is not going to affect the processing part of it, but it will affect you lining up the transportation issues and—I forget what else you said—the detailed design issues?

Mr. SPROAT. Just so I am clear, that will not impact—over the next 3 to 4 years of the licensing process, it will not impact our ability to proceed and support that licensing process. What it is doing is, it is lengthening out the critical path of the overall program, which includes not just the design and building of the repository, but the design and building of the rail line in Nevada to bring the shipments to the repository, and the buying of the casks and the other equipment we need for the national transportation program to bring everything to Nevada.

And when I give the committee later this summer the revised baseline for the program, I will be able to show you more quantitatively what the impact on the schedule is, given this reduced funding assumption over the next 3 to 4 years.

FUNDING FOR YUCCA MOUNTAIN

Mr. RYAN. So—I think Mr. Visclosky may have asked this: So if you were asked in 3 or 4 years if we gave you more money than you would have budgeted for, if we gave it to you from now to then—

Mr. SPROAT. Yes.

Mr. RYAN. This is a time issue, this is not a money issue. Is that what you are saying from that perspective?

Mr. SPROAT. Let me make sure I understand your question the way you intended it.

If we had higher funding than what we are requesting, we could, in fact, accelerate the design at both the repository and the rail line that are on the critical path of getting the repository open.

But it is not just the money issue alone that is going to drive when that date occurs. It is number one, do we get the construction authorization from the NRC and when does that happen? Do we get the land withdrawal legislation that allows us to withdraw that land from further public use so the NRC will give us the final authorization to build? And, in fact, can we expect a dependable level of funding at the \$1.2 to 1.9 billion a year it is going to take to execute that program on the fast track?

Those are really the key issues. They drive the schedule.

Mr. RYAN. You need money to execute all that? Is that what you are saying?

Mr. SPROAT. Yes. Yes.

Mr. RYAN. And how much do you need, ideally, in those 3 or 4 years before the permitting is done?

Mr. SPROAT. I guess the best way to look at that—and I will be glad to send this up to you—in the presentation I made to the committee this time last year we showed what I call the “best achievable schedule,” how fast could we operate and open the repository if everything went right with an unconstrained cash flow. And what that showed is that for 2009 it was about 1.2 billion, and it went up to about 1.7 or 1.8 billion over that next 3- or 4-year period.

And that is how I would answer your question. That is, if we had an unconstrained cash flow, that is how we would execute the program to get it open as fast as we could.

Mr. RYAN. So when you are trying to do the rail line—I understand that you would need money to build that and to buy the

equipment and all that, but as far as the process leading up to where, before you are actually laying down rail lines, you cannot start working on any of those issues?

Mr. SPROAT. We actually have money in this budget this year to do some of that, to do some of the surveying along the rail line, because we will be issuing our final record of decision on the rail alignment and final environmental impact statement later in this year, in the next 2 months, 3 months. And then the intent is, in fiscal year 2009, to begin the surveying of that so we can actually begin the detailed design of that track bed. So there is money in there to do that.

Mr. RYAN. Let me just ask one final question. And before I do, I just want to join the chorus here of praising Mr. Hobson.

Being a fellow Member from Ohio and having the opportunity to travel a little bit with him, those of us that are coming up through the ranks in Congress from Ohio politics, he is the gold standard. And I just want to thank you for taking us young whippersnappers under your wing.

And he has turned me on to nuclear power, and I am a believer now; I drank the Kool-Aid.

Mr. HOBSON. Is not that glowing?

Mr. RYAN. One final question.

Mr. HOBSON. Wait a minute.

Mr. RYAN. Yeah.

Mr. HOBSON. You need to tell him that the rail line that you do is not going to go through Clark County.

Mr. SPROAT. That is correct.

Mr. HOBSON. Everybody needs to know that.

Mr. SPROAT. The rail line, the Department made a decision, a record of decision, several years back that the primary mode of moving the spent nuclear fuel from across the country to the site is by a rail line. The trouble is, there is no rail line from the Yucca Mountain site out to the Nevada State border to the main rail line, so we have to build that. And as part of coming up with those routings we decided and, you know, not to route the rail line through Clark County and through Nevada, because there is a rail line that goes right through downtown Las Vegas. And there is all sorts of toxic materials that go down through there now, and we said probably not the right thing to do.

Mr. PASTOR. Clark County is Las Vegas?

Mr. SPROAT. Yes, in Las Vegas, that is correct.

Mr. HOBSON. That is just a big political thing. You start talking about the railroad, some reporter out here writes you guys are going to site it, and then everybody is going to get all excited.

LIABILITY COSTS OF ONSITE STORAGE

Mr. RYAN. It is going to go right through the MGM Grand.

One final question. The fact that Yucca will get moved back, you are saying, without the money and then Yucca gets moved back, what kind of pressure does that put on the local facilities that are currently holding the waste?

Mr. SPROAT. All of the existing nuclear power plants have on-site storage. All of them have wet spent fuel pools that when fuel is taken out of the reactor it goes right in the spent fuel pool.

All of the ones that are getting to the point or have gotten to the point where those pools are full have created on-site interim storage, where they have basically concrete pads outdoors, which are in secure areas, and the spent fuel is stored dry in steel and concrete casks—very safely stored. And as the plants are getting closer to their fuel pools being—the newer plants are getting closer to their fuel pools being filled, they are building these interim storage facilities. So they have the capability to do that.

The licensing, the NRC has the licensing process to do that. There are—I forget the exact number, but there are a substantial number of plants that already have that, so it is not a technical issue and it is not a political issue generally, except maybe right in the area of the plant sometimes.

The bigger issue is the cost to the U.S. Taxpayer because of that delay. The issue is we, the Department of Energy, have standard contracts that we were required to enter into under the Nuclear Waste Policy Act with every nuclear plant operator. You cannot get a license unless you have a contract with DOE to take your spent fuel. That standard contract required us to begin performance in 1998.

The law also does not allow us to actually start picking up the fuel and taking possession of it until the repository is open. As a result, DOE is in partial breach of the contract, and there are 70-some lawsuits currently in the courts where the government is being sued for partial breach of the contract, and that liability continues to grow.

So the primary financial impetus to the U.S. Government to move this thing forward and to get it going and get it open is—besides, obviously, the national security and the national energy issue, is the real legal issue associated with liability because the DOE has not performed on these contracts yet.

Mr. RYAN. Great. Well, keep up the good work.

Mr. SPROAT. I will try.

We are estimating—if we open the repository in 2017, we are estimating that that total liability would be about 7 billion. Now, the industry believes it is a lot higher, but we have higher confidence in our own numbers.

But to give the committee a better feel for the impact of delay, if we delay the repository from 2017 to 2020, we expect that liability to grow from 7 billion to almost 11 billion. So the numbers are not insubstantial.

And also, just so you know, the courts have ruled that the Nuclear Waste Fund cannot be used to pay that liability. It has to come from the judgment fund.

Mr. SIMPSON. The courts have ruled that way?

Mr. SPROAT. Yes, the courts ruled in 2002. There was a court case about whether or not the Nuclear Waste Fund could be used to reimburse the utilities for their costs that they would not have incurred if the government had performed. And the court ruled that, essentially, those were damages that the utilities' own funds could not be used to reimburse them for the damages caused by the government's partial breach of the contract.

Mr. VISCLOSKEY. Mr. Sproat, we have about 4 minutes. We are going to have to go. But since you are on the subject, the Office of

Environmental Management is requesting funding in 2009 to reimburse the judgment fund for claims against the government resulting from EM actions or inactions. You are not making a similar request.

Mr. SPROAT. No, we are not.

Mr. VISCLOSKY. Is there a particular reason?

Mr. SPROAT. As it has been explained to me, there is evidently an act that—I forget exactly what the name of the act is—that requires that if an agency is found in breach, and the judgment fund needs to pay out, the agency needs to reimburse the judgment fund.

The issue is with this litigation on these contracts, I believe there are two issues legally that impact this. One is that we are not buying something from these folks; we are contracted to provide them a service. And so the law as it is currently written I do not think applies to that situation. It had not contemplated that situation for the Federal Government of contracting to provide a service that it did not provide.

Mr. VISCLOSKY. If the law would change, assuming that is correct for the sake of argument, would the industry support DOE requesting appropriations to pay out of the judgment funds so the fines were coming out of your budget? And I am not saying that because you somehow failed, but that there would be more pressure if it is coming out of your pocket instead of a generalized—

Mr. SPROAT. Depending upon your point of view on whether or not you want to see the program move forward, that could either be a good thing or a very self-defeating thing. Personally, I believe, given the difficulty we are having in getting the funds to execute the program and make it happen, if that funding level stayed where it was, and a substantial portion of it was diverted to reimbursing the judgment fund, essentially the program would come to a complete stop.

Mr. VISCLOSKY. Got you.

Mr. Ryan, I hate to make you wait, but we have three votes. We are almost done with one, and we should be back very shortly.

[Recess.]

GNEP

Mr. VISCLOSKY. Mr. Spurgeon, I will start it again. I think Mr. Hobson is going to be coming back as well.

On GNEP, according to the GNEP strategic plan, the DOE plans to prepare a decision package by June of this year so that the Secretary of Energy can make a decision whether to proceed with building a nuclear fuel recycling center and a prototype advanced recycling reactor, assuming that a credible technology pathway has been developed and a credible business plan exists. What specific criteria will you use for the June 2008 decision given the uncertainties that surround the initiative?

Mr. SPURGEON. Well, there just will not be a June 2008 record of decision. We are not to that point yet where a reasonable amount of information is available to support such a thing. Neither will we have by that point in time the NEPA Programmatic Environmental Impact Statement complete.

When that schedule was put together, and when those objectives were put together, we were anticipating not only a substantially higher funding profile, but being much farther along in our NEPA process than we currently are today. So I would look to the end of this year, and this being more of a transition document that would be the Secretary's recommendation as to this is where we are, and this is how I think we ought to proceed. But by no means are we going to be in a position to recommend any major demonstration-scale facilities or their construction at this time.

What we hope to do is get to the point where we might be able to become much more definitive relative to a research and development facility for all fuels by that point in time, but there is no question we are behind on getting to the point where we could have the foundation for a reasoned recommendation for a demonstration-scale facilities for either the fast reactor or for a recycle plant.

Mr. VISCLOSKY. On the recommendation, would that be October 1st, the fiscal year, or January 1st, the calendar year?

Mr. SPURGEON. I would look at it as part of a transition document from this administration to the next.

Mr. VISCLOSKY. Okay. And as far as recommendations made, either as far as the recycling center or a reactor or potentially a research, relative to the 413 process order, would that represent one of the critical decision points, CD-0, CD-1, CD-2, as far as a transitional document or recommendation?

Mr. SPURGEON. Certainly. If we get to that point—we are really at CD-0 at this point, statement of mission need, but we would follow the DOE order for anything that is going to be government funded.

Mr. VISCLOSKY. Relative to that, then, for 2009, you would not have any construction dollars in your budget for GNEP.

Mr. SPURGEON. No, sir.

Mr. VISCLOSKY. DOE has often said that it needs to proceed now with design and construction of a reprocessing facility even if it uses separation technology less advanced than GNEP UREX process because the U.S. needs to be part of the game and to have a team on the field. DOE implies that the U.S. needs a reprocessing facility to play a leadership role, and there has been some discussion about that today, in influencing future choices regarding nuclear energy technology. If we would use existing technology or a minor variation, do you think, that would be enough, to move us into that position as far as influencing others' decisions?

Mr. SPURGEON. I think so. And, in fact, part of the agreement relative to the GNEP statement of principles is—and this is I think one of the positive aspects of that—is we have achieved agreement by the partners that we will move away from processes that separate pure plutonium.

The basic issue here, from an ability to prevent a potential terrorist or whatever from being able to get ahold of material that they could rapidly put in a device that could create a nuclear explosive, is the degree to which that material is diluted by nonfissile material. So it is very important for us to not add to the supply of separated plutonium around the world, which is what is happening at this point. So moving away from that, and providing leadership to show that it is economically feasible and very com-

petitive to engage in a process that does not separate out pure plutonium, I think, has real value.

Mr. VISCLOSKY. Okay. Understanding that you would be in a position to make a recommendation in a transition document, would part of that be consideration as to how facilities, whether they be a fast reactor, reprocessing facility, be paid for in the future as far as the private sector being involved in potentially partnering and paying for part of that?

Mr. SPURGEON. Yes, sir. We do look at the models on which we would move forward with a number of these programs. Obviously, from an R&D standpoint, that is something that we are going to have to provide the underpinning for. But when we get to the point of building, whether—building, for example, a fast reactor demonstration facility, we are looking for that to be a partnership effort; in the case of the fast reactor, very likely an international partnership effort.

We do have a trilateral agreement between the United States, Japan and France, and we are proceeding along the lines of cooperating with them such that the United States would not have to bear the whole burden of any such facility that would be built, just as perhaps in a different way, but not too dissimilar from the way we are looking at going toward a demonstration facility for the Next Generation Nuclear Plant or the gas/coal reactor plant in cooperation with some sort of an industry consortium.

Mr. VISCLOSKY. I am fine for right now.

Mr. Hobson.

MOX ISSUES

Mr. HOBSON. I have a series of questions on something else, but, you know, one way we could have solved some of this is if you guys support the Lantos-Hobson bill. I know you did not come up with the idea, so it does not work. If the administration did not come up with it, you do not want to do it. However, we have a bill that we authorized and funded. If implemented, it would make winding up with weapons-grade plutonium a lot less likely. Former Senator Nunn is a proponent. We set up a fuel bank by the United Nations that would do all of this, and you would have to do none of this.

I might also add if you had taken the \$11 billion from the MOX plant and gone to the fast reactors, like the Russians are doing, we might have gotten there faster. Enough said on that.

You understand what I am talking about. The Lantos-Hobson bill is something that if this administration, in the last months, could use to send a message to the world that they really cared about this situation. It would put the Iranians and other people on the defensive. You could talk about this program run by the United Nations.

Mr. SPURGEON. But we are supporting that, sir.

Mr. HOBSON. It has not gone anywhere.

Mr. SPURGEON. The reliable fuel supply is a key ingredient. We have two major subcommittees as part of GNEP. One is infrastructure, which I talked about a little bit before about countries wanting to get into this having the necessary infrastructure. The second is reliable fuel supply. And the United States is right now in the process of blending down 17.4 metric tons of high-enriched ura-

nium to low-enriched uranium that we have committed to this fuel bank.

So we are very much in support of the IAEA, i.e., the United Nations', effort to create such a fuel bank to take away the excuse that countries such as Iran might have that they need to have their own indigenous—

Mr. HOBSON. There are \$50 million in the bill to move forward on this, and I would like to see it moving forward. It would be a really good—how can I put it—monument to Mr. Lantos and his thoughtfulness in this area.

Mr. SPURGEON. Yes, sir. We support it.

Mr. HOBSON. I want to go back to reports that have surfaced about the, quote, red oil problem at the MOX plant and the potential for explosion from this problem. I assume you are familiar with it?

Mr. SPURGEON. Yes, sir.

Mr. HOBSON. Do you consider this problem totally resolved at this time such that DOE can proceed with design and construction?

Mr. SPURGEON. I know the problem is being addressed. I believe the problem has been totally accommodated in the design of the plant. And I know that the Administrator of NNSA has asked the Defense Nuclear Facilities Safety Board to basically have a look at it to provide their advice to him. That is a plant that is licensed by NRC, so consequently NRC is the one that finally goes through it.

Mr. HOBSON. Does the Nuclear Regulatory Commission consider the red oil problem to be totally resolved, or will the DOE not know for certain until the NRC considers the operating license for the MOX plant?

Mr. SPURGEON. Because I am guessing here, knowing how NRC works, nothing is final until they give you a final license. But it is my understanding, and this is based on anecdotal evidence, not based on absolute fact, that NRC is comfortable with what has been done by the program office and by the people in the field relative to the red oil issue.

Mr. HOBSON. Can you reassure the committee that the Department will not have to make any changes to the design, construction or operation of the MOX plant or incur any additional costs to address the red oil problem? I do not think you can.

Mr. SPURGEON. I cannot sitting here, no, sir.

Mr. HOBSON. So we do not know whether we are going to have to come back and spend a massive amount of money to solve a problem on this plant.

Mr. SPURGEON. I am familiar with red oil much more from my old days in the reprocessing business than in the current environment with respect to the MOX plant.

Mr. HOBSON. USEC or where?

Mr. SPURGEON. No, this was back in the days of Allied Chemical. We built the Barnwell plant.

Mr. HOBSON. Okay. Let me on another thing. The Department is liable for some massive fines to the State of South Carolina if the MOX plant does not become operational by certain dates, dates that there is no chance—you might even agree—the Department will meet. Knowing you cannot meet these State deadlines, why

has the Department not submitted a legislative proposal to eliminate the fine provision or at least modify the dates to match what is a realistic construction schedule for the MOX plant?

Mr. SPURGEON. Let me take that one for the record, sir.

Mr. HOBSON. You do not want to answer it?

Mr. SPURGEON. I do not know the answer to the question. I will get the answer for you, sir.

Mr. HOBSON. If the fine provision is not modified legislatively, who will pay the necessary fines to the State of South Carolina?

Mr. SPURGEON. I would only be guessing if I gave you an answer. Let me get back to you with an answer.

[The information follows:]

LEGISLATIVE PROPOSAL TO MODIFY DATES FINE PROVISIONS TO MATCH
CONSTRUCTION SCHEDULE FOR MOX PLANT

The Department remains willing to work with Congress to revise section 4306A of the Atomic Energy Defense Act.

Mr. HOBSON. I hope it is in my term.

Mr. SPURGEON. We leave on the same day, unless with all of this I am leaving much earlier. I do not know.

Mr. HOBSON. We never know these days. I find out some guy is getting appointed somewhere to something all the time.

Will the funding for those fines come from your budget or the Office of Nuclear Energy, and does your outyear budget projections for nuclear energy include such fines?

Mr. SPURGEON. My outyear budget does not include them, but I cannot answer anything more.

Mr. HOBSON. If they are not in your budget, you know, where are they shown in the Department's budget or elsewhere in the Federal budget? You do not know either.

Mr. SPURGEON. I cannot answer.

Mr. HOBSON. Somebody better figure this out because, you know, they are going to happen unless somebody does a legislative fix. I tried to say this to this administration back when they were screwing around with this a number of years ago. However, because of elections in South Carolina and deals they made in South Carolina, nobody wanted to address this stuff. Nobody wanted to address it, and now I suspect that this is one of those things that is going to be left for somebody else to do down the road. Everybody is going to look back and say, "how did this happen?"

I am asking the question. It is on the record. If this Congress does not do anything about it, we are going needlessly to pay fines to the State of South Carolina, I mean, you are a taxpayer, I am a taxpayer. This is dumb. This is dumb.

Mr. SPURGEON. I am a big taxpayer.

Mr. HOBSON. Can you imagine what somebody sitting out there who is losing their house because of some stupid loan is saying to us? How can you be fined after putting all this money and this program in South Carolina. South Carolina said they want it, went all the way to the White House to get it done, and now, expects to be paid a fine. The only people who like that are people who live in South Carolina because it says more money to South Carolina. Everybody else in the country says, another stupid deal out of Washington. Just stupid.

This kind of stuff makes us all look not only totally inept, but dumb and stupid. I do not get it, you know. I just do not get it.

Anyway, I am not going to talk any more about red oil today. I hope someplace down the road we get some resolution to this. I would hate to wait until NRC gets done with all of its stuff and then comes back and tells you that you have to do all these other thing. We are going to have some people looking at it. Just to be sure, we are going to have some people looking at it. Aren't we, Mr. Chairman?

Mr. VISCLOSKY. Yes, sir.

Mr. Olver.

FISSION ENERGY

Mr. OLVER. Thank you, Mr. Chairman.

Actually, Mr. Secretary, I think there are some areas that you and Mr. Hobson agree on. You certainly believe in the need for nuclear energy as a power source over a period of time. And I agree, too, that we are going to need that, as far as I can tell. Although there are some people that think we ought to be putting a huge amount of effort into research and development on fusion, and stop all of this business about what are you going to do with the high-level waste, because the waste is so much less in the case of fusion, if you could finally make it work.

So, yes, I agree that we are going to need fission nuclear energy for a considerable period of time. Recall for me, remind me, it is U-238, that is the fissionable material?

Mr. SPURGEON. 235, sir.

Mr. OLVER. 235. And that is the only isotope that is the subject of the fission. So it is the 235 that we are—is it 236 or 238 that is the major portion?

Mr. SPURGEON. 238.

Mr. OLVER. 238 is the major portion. Okay. So what is the percentage of 235?

Mr. SPURGEON. Point 7 percent, seven-tenths of 1 percent.

Mr. OLVER. U-235 is .7 percent. And for power purposes you need to enrich it to what level?

Mr. SPURGEON. On the order of 4 percent.

Mr. OLVER. Four. And for bomb purposes it is to what?

Mr. SPURGEON. Fully enriched.

Mr. OLVER. What does that mean?

Mr. SPURGEON. In excess of 93 percent.

Mr. OLVER. Ninety-three percent. Okay. All right.

So when you made the comment that you are diluting 17 tons, of highly enriched, I suspect that highly enriched that was defense materials, weapons-grade material that is now being diluted—

Mr. SPURGEON. Yes.

Mr. OLVER [continuing]. To get that back to be able to use, and I take it you must have meant by going to low-enriched to get back to power-grade.

Mr. SPURGEON. Yes, that is correct.

Mr. OLVER. Okay. All right. Fine. I understand what you are doing now. Okay.

And now I would like to go back and—by the way, I have notes around here. It is a little bit difficult to keep track of what I am

trying to do, but I just noticed one. And I wanted to ask you, and I will do it as an aside here, but I will get back to the main point. In your testimony you had deplored rather strongly the loss of infrastructure in the nuclear industry, both in the way of capital facilities, demonstration sorts and pilot sorts, that could be used, but also the personnel and so forth and the training aspects. There is something like I think it is 77 million for university items. If you had your way, how much would that program for support of university research and development, university-level R&D, where the nuclear scientists are being trained and getting their feet wet, how much would that be?

Mr. SPURGEON. Well, first of all, I would like to see it get to the level where we would be spending the 77 million. We are not there at this point.

Mr. OLVER. But that is the recommendation for this year.

Mr. SPURGEON. Yes, sir.

Mr. OLVER. What is it in the 2008 budget?

Mr. SPURGEON. We are looking to try to set aside money, and I know this has to be discussed with the committee relative to the direction that it be—a majority of it be competed between national labs, universities, and industry, I would really like to be able to fence off a certain amount or a certain percentage of funds so that universities would be able to count on a continuing funding level, because what they are doing, you know, the big thing for this money is it allows universities to hire professors, professors to hire graduate students, and to have some certainty over—because we issue 3-year grants, and what you want to do is have predictability of funding going into the future for them, just like we like to have predictability—or Mr. Sproat was saying he would like to have predictability on funding available for him in building the repository.

Mr. OLVER. And there is no such money in the 2008 budget or the 2007 budget that goes directly to that purpose?

Mr. SPURGEON. It is not fenced, no. As the Chairman mentioned, there was a university fellowship program that my department administered up in the time period prior to last year, and the administration's request for that program was zero, and the Chairman or this committee, I think, recommended, or the Congress recommended, in the end that that program be reestablished and be housed within the Nuclear Regulatory Commission for the 2008 time frame.

Mr. OLVER. All right. Well, Mr. Chairman, tell me when I must stop. You want me to stop? All right. Look, he is giving me—

Mr. VISCLOSKY. You are Chairman on another committee.

Mr. OLVER. I want to go back to where I was with you having clarified for me exactly what the levels of enrichment were. Under GNEP we have 22 partnership agreements apparently with other countries. Now, this must track somehow the provisions of the Nuclear Nonproliferation Treaty. Are those partnerships, are the 21 or the 22 that are our partners in that agreements also apply to working—are Britain, France, China and Russia also signers to the same partnership agreements?

Mr. SPURGEON. They are all part of the Global Nuclear Energy Partnership.

Mr. OLVER. I realize that, but would China be able to say that they have 22 partners also?

Mr. SPURGEON. Yes.

Mr. OLVER. Because they are all signers to those partnerships agreements then?

Mr. SPURGEON. This is not a United States and others. This is everyone within the Global Nuclear Energy Partnership is equivalent.

Mr. OLVER. But there are only five countries who are eligible to be producing—to be making nuclear-grade materials eligible legally under the treaty if they are signers of the treaty. You have indicated there are nine countries other than in addition to the 22 that are making—that have nuclear. I guess I am wrong. You take out 5, the 5 nuclear powers, from the 31 total, so it is down to 26.

Mr. SPURGEON. Yes. The difference here is that what I mentioned is there were 31 countries that have nuclear power today, not necessarily that are part of—

Mr. OLVER. Which includes India and Israel and North Korea who have nuclear power, but also would be in countries that have been trying to enrich or have done enrichment.

Mr. SPURGEON. It would include India. Israel does not have nuclear power reactors.

Mr. OLVER. They do not?

Mr. SPURGEON. I am sorry, Israel does not have a commercial nuclear power reactor. They have a research facility. This is a difficult one to deal with.

Mr. OLVER. All right. I will stop. I will stop.

Mr. VISCLOSKY. Mr. Simpson.

Mr. OLVER. I will come back. I will think a little bit.

CONFLICT OF INTEREST RESTRICTIONS

Mr. SIMPSON. Thank you.

I want to get back to the relationship between the Congress and this committee and the Department, if I could, for just a minute, because some of the concerns I think that the committee has and some of the issues the committee has often deal with politics within the Department. We know there are politics that are played here, but there are oftentimes politics played within the Department depending sometimes on where employees come from, what labs they come from, et cetera, et cetera, et cetera.

You came from the United States Enrichment Corporation.

Mr. SPURGEON. Actually, I came from a golf course in Florida.

Mr. SIMPSON. I would like to have come from there, too.

Did the Department place any restrictions on you to avoid any conflicts of interest with your old employer?

Mr. SPURGEON. I had to do a number of things. I worked for more than one person in the nuclear industry. But anybody coming into my position cannot have any financial connection whatsoever to energy companies, particularly nuclear energy companies.

Mr. SIMPSON. I would assume that you have similar ethics restrictions that apply to your career staff working within the Department?

Mr. SPURGEON. Yes. People are required to file financial disclosure statements associated with their past interests. But it is a lot

more stringent, if you will, for people that go through the Senate-confirmed political appointee process.

Mr. SIMPSON. If you have on your staff an employee that came from one of the national labs, worked for a contractor at one of the national labs, do the same conflict-of-interest restrictions prevent that employee from making decisions that affect funding for their home laboratory, if you will?

Mr. SPURGEON. I am very familiar with my restrictions. I am less familiar with the actual legal issues pertaining to people that are not at the political level. And I would like to answer that question for the record so that I do it correctly.

[The information follows:]

CONFLICT OF INTEREST RESTRICTIONS

Executive branch employees are governed by both statutory and regulatory conflict of interest standards. These standards, briefly described below, apply to all federal employees, including former national laboratory employees.

The statutory conflict of interest standards are found in 18 U.S.C. 208. Specifically, executive branch employees are prohibited from participating personally and substantially in an official capacity in any particular matter in which they, to their knowledge, have a financial interest. This prohibition extends also to financial interests which are imputed to the employee, including, among others, those of their spouse or minor children. If an employee continues to have a financial interest in his former employer, this criminal statute would prevent his participation in a particular matter that impacted that financial interest unless the employee received a waiver of the participation restriction or a regulatory exemption applied.

The regulatory conflict of interest standard is found at 5 C.F.R. 2635.502. This provision prohibits an employee from participating in a matter that will specifically affect the financial interests of an employer for whom the employee worked in the past year if a reasonable person with knowledge of the relevant facts would question the employee's impartiality in the matter. In this instance, an employee may not participate in the matter unless authorized to do so. An employee's immediate supervisor, in consultation with the Office of the General Counsel, may authorize the employee to participate in such a matter based on a determination, made in light of all relevant circumstances, that the interest of the Government in the employee's participation outweighs the concern that a reasonable person may question the integrity of the agency's programs and operations.

Mr. SIMPSON. Okay. Where does the GNEP manager come from? What lab?

Mr. SPURGEON. The deputy manager. I am the GNEP manager—

Mr. SIMPSON. Right.

Mr. SPURGEON [continuing]. But the deputy manager worked at Los Alamos National Laboratory.

Mr. SIMPSON. Los Alamos is a weapons lab.

Mr. SPURGEON. Yes, sir, but they do a lot of things other than weapons today. But they are principally a weapons laboratory, yes, sir.

Mr. SIMPSON. And, of course, one of the debates that is going to go on in Congress is that as weapons work decreases, weapons labs and representatives from those areas are going to substantially try to get work from other laboratories to maintain workload in those weapons laboratories.

I have noticed that Los Alamos has a substantial amount of GNEP work. It leads the GNEP safeguards campaigns; has major roles in fast reactor transmutation fuels, separations and waste forms campaigns; also provides the GNEP country coordinator for Russia.

What control do you have over the money when you send it to a weapons lab?

Mr. SPURGEON. Well, you have control from the standpoint of they are using the money to perform the statement of work that is assigned to them. You know, they do report, and we have a structure set up to coordinate work that is done at all of our laboratories, which Idaho is the technical manager of. And Mr. Philip Fink runs that program for us at Idaho. But we have control of the scope of work, and we have control of the funding that is allocated to them.

But, you know, I would tell you what Los Alamos's budget is. For this year it is \$30 million, but \$15 million of that was directed by the committee. So it is really 15—for our what I would call the programmatic work that we have defined and \$15 million for the hot cell upgrade improvement work that was directed by the committee.

Mr. SIMPSON. I think some of the concern is that some of the money is being directed—how do you say this—for political purposes rather than necessarily where the work ought to be done. But I have noticed—yeah, that is a first. I have noticed regarding how much control you have over funding that you send to Los Alamos, in section—U.S. Code 2410, section 3220, Status of Contractor Employees, each officer or employee of a contractor of the administration shall not be responsible to or subject to the authority, direction, or control of any officer, employee or the Department of Energy who is not an employee of the administration except the Secretary of Energy.

I am just wondering how much control you have over those employees. Do you have the same control over those employees as you would have if they worked at the NE lab?

Mr. SPURGEON. No, because I am not the programmatic officer for the Los Alamos Laboratory. That is an NNSA laboratory from the standpoint of its major reporting relationship. I do not own the national—the Idaho National Laboratory, but that is the phrase we use, because I do accept ownership and responsibility for the Idaho National Laboratory. I do not for the Los Alamos National Laboratory.

Mr. SIMPSON. So you actually have more control over the NE lab than you do if the money goes to Los Alamos.

Mr. SPURGEON. In general, yes, sir.

Mr. SIMPSON. The same question could be asked, I guess, Mr. Sproat, the Department has designated Sandia as the lead lab on Yucca Mountain, the Yucca Mountain project?

Mr. SPROAT. Yes.

Mr. SIMPSON. In light of that same section that I just read, how are you able to maintain effective operational control over Sandia?

Mr. SPROAT. Actually, let me answer the question from two vantage points; one is contractual, one is managerial. Contractually, the contracting officer that has control of the contract with Sandia resides in NNSA. So in terms of who can formally give direction and change a contract for that—for Sandia for their work for us, it has to go through the contracting officer who is in NNSA. So that is the contractual legal piece.

The reality is from a management piece in terms of how we work with them, how we work together, the Sandia senior manager who runs their project for Yucca is—I consider him part of my senior management team, and he is involved in our monthly meetings. I meet with them biweekly. So from a management standpoint they are integrated into my senior management team. But from a contractual standpoint, when we have to make a change to their contract, legally we have to go through NNSA. The arrangement has worked out very well, as far as I am concerned.

Mr. PASTOR. Would the gentleman yield?

Mr. SIMPSON. Sure.

Mr. PASTOR. You know, we are all human beings. What happens if there is all of a sudden a conflict, personality or dispute? Who has the final say?

Mr. SPROAT. I am happy to report that in the 2 years we have had this contractual relationship with them, we have not had that problem.

Mr. PASTOR. But things change.

Mr. SPROAT. Yeah, they might.

Mr. PASTOR. That is the reality. Things change. But the question is who will have—who will be the determining factor if there is a conflict of what is going to happen, what is not going to happen? Regardless if—you know—

Mr. SPROAT. I would hope that what would happen is that, you know, we have been able to maintain a very good collegial relationship with the folks over at NNSA who have the contractual control of the contract, and if we have had any issues at all—and, quite frankly, there has been nothing that has been elevated to my level that I have had to work with Tom D'Agostino's organization to resolve. I would hope in the future that kind of relationship, good working relationship, would be maintained. But I have not run into that problem so far.

Mr. PASTOR. You know, at one point if there is a conflict, the resolution is going to say this person or that person. That is what I am trying to find out.

Mr. SPURGEON. Resolution would go to the Secretary, unless he designated that to the Deputy Secretary, because that is where we all come together. If either, you know, Ward or I could not agree with Mr. D'Agostino relative to one of these issues, it would go to the Secretary for resolution.

Mr. SIMPSON. There will be a conflict at some point in time. Even my wife does not agree with me all the time.

Could you provide us for the record a copy of your internal decision memorandum on this designation of Sandia as your lead lab? And also provide for the record a copy of the legal memorandum of your Office of General Counsel addressing the legal questions involved in designating as your lead laboratory an NNSA entity that is by law not subject to your authority, direction or control.

Mr. SPROAT. I have not seen those, so if I can find them we will get them up here, and we will get back to you one way or the other in terms of what we have. That decision was made before I came.

Mr. SIMPSON. Okay.

Mr. SPROAT. I was confirmed. So I was not involved in that decision. I do not know what documentation exists. I will have to see what we have.

[The information follows:]

DESIGNATION OF SANDIA AS LEAD LABORATORY

As requested, attached is a copy of the internal memorandum regarding designation of the Sandia National Laboratories as the lead laboratory for science-related work for the Yucca Mountain Project. No legal memorandum prepared by the DOE Office of the General Counsel exists addressing these questions.



Department of Energy

Washington, DC 20585

2005-011268

December 23, 2005

MEMORANDUM FOR THE SECRETARY

THROUGH:

THE DEPUTY SECRETARY

UNDER SECRETARY FOR ENERGY,
SCIENCE AND ENVIRONMENT

UNDER SECRETARY FOR NUCLEAR SECURITY
ADMINISTRATOR FOR NATIONAL NUCLEAR
SECURITY ADMINISTRATION

FROM:

PAUL M. GOLAN
ACTING DIRECTOR
OFFICE OF CIVILIAN RADIOACTIVE
WASTE MANAGEMENT

SUBJECT:

INFORMATION: Announcement of intent to: (1) designate Sandia National Laboratories (SNL) as the lead laboratory for science-related work for the Yucca Mountain Project and (2) descope Management and Operating (M&O) contract with Bechtel SAIC Company, LLC, to eliminate its responsibilities for those activities to be undertaken by SNL.

BACKGROUND:

The Yucca Mountain Project involves the integration of cutting-edge science to support projections of repository performance over tens of thousands of years. During the evaluation phase of the site, the M&O contractor was assigned responsibility for this task.

With completion of site characterization, the Project shifted its focus toward preparation of a license application for submission to the Nuclear Regulatory Commission (NRC). The license application will be divided into several parts. The two primary parts will focus on: (1) a performance assessment of the natural and engineered barriers during the postclosure period and the supporting science and (2) the science and engineering efforts supporting pre-closure design and operations.

DISCUSSION:

In preparing for the demands of the NRC license environment, the Project has found that the current management and integration approach needs to be revised to meet the challenges ahead.



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Therefore, we are implementing a revised approach for completing work needed to submit a supportable license application by separating the existing contractor responsibilities for completing the repository science work to support the postclosure performance assessment from the pre-closure and design efforts. This approach aligns responsibilities more clearly within the competencies of the Project participants and more effectively leverages the capabilities and corporate knowledge of the Department's national laboratories' experience with repository science issues.

Specifically, we intend to designate SNL as the lead laboratory to manage and integrate scientific investigations and performance assessment for the postclosure. These activities include delivering the technical products supporting demonstration of the postclosure performance assessment and performance conformation. The Office of Civilian Radioactive Waste Management (OCRWM) will administer these activities through the National Nuclear Security Administration's work authorization process by issuing to the Sandia Site Office (SSO) a Statement of Work, a Work Authorization document, and by placing the funding in the Department of Energy's financial systems. SSO will review and authorize the work through the SNL contract.

Consistent with the intent of a Federally Funded Research and Development Contract to provide the Department with special long-term development services, we believe SNL is best positioned to serve as the Project's lead national laboratory. SNL has a unique corporate experience with regard to the challenges of managing scientific investigations in support of a federally licensed geologic disposal facility, having addressed such issues while serving in the capacity of the Scientific Advisor for the Waste Isolation Pilot Plant (WIPP) for over two decades. Attachment 1 provides an overview of the role and responsibilities of SNL as the lead laboratory.

The revised approach builds upon the Department's successful experience with WIPP which used a dedicated M&O contractor for all pre-closure work combined with a single national laboratory responsible for the management and integration of the post closure science work.

The implementation of this approach is not expected to result in increased costs. The transition costs and increased laboratory role are offset, in part, by eliminating a 30 percent overhead charge now imposed by the M&O contractor. The

M&O contract will be modified to delete the appropriate work scope and adjust other terms and conditions as required to reflect this change. It should be noted that the M&O contract base period of performance expires in March 2006, and the Department is preparing to exercise a one-year option period while simultaneously preparing a competitive procurement. The contract extension and new procurement will exclude the lead national laboratory scope of work.

OCRWM anticipates making a public announcement on its intent to designate SNL as the lead laboratory before the end of 2005. Actual designation is dependent on completion of a Scope of Work (Attachment 2) and initial task orders. These documents need to set forth clearly the roles and responsibilities of SNL and the mechanism by which OCRWM will manage the work performed for the Project by SNL. Among other things, these documents need to address quality assurance requirements in a manner acceptable to NRC.

SENSITIVITIES: The current M&O contract will be descoped to reflect the work to be performed by SNL. Consequently, the M&O contract funding will be reduced by approximately \$65-\$75 million a year. In addition, the M&O contractor will likely be concerned about its ability to meet those contractual obligations that will be dependent on scientific work for which SNL is responsible. While concerns from other participating national laboratories are not expected to be significant, some are concerned over the continued level of funding through this new arrangement.

POLICY IMPACT: None

2 Attachments

Concurrences: General Counsel/ Fygi 12/22/05
 Science/Orbach 11/9/05
 Management/Kolb for Carnes 11/14/05
 Congressional Affairs/Nichols 12/23/05
 National Nuclear Security Administration/Detwiler 12/22/05
 Sandia Site Office/Patty Wagner 12/22/05

Roles and Responsibilities of the Lead Laboratory

As the lead laboratory for the Yucca Mountain repository program, Sandia Corporation (Sandia) will provide:

- strong central leadership for the repository science program while maintaining access to the best-in-class expertise from national laboratories, contractors and consultants, and universities;
- cost-effective management of post closure science by focusing work on those activities that are most important to performance;
- technical credibility with the regulator, scientific community, and stakeholders; and
- assurance that scientific work is conducted in accordance with all applicable Nuclear Regulatory Commission (NRC) requirements, including quality assurance requirements.

As the lead laboratory, Sandia will provide management and integration services for:

- scientific programs including defining work activities and priorities related to repository science needs and creating a responsive performance confirmation program;
- providing the portions of the license application that set forth the scientific work for which Sandia is responsible in a form that permits its incorporation into the license application without further substantive work;
- providing information, analyses, documents, expert witnesses, and other scientific and technical support needed for the adequate and successful legal defense of the license application during the NRC licensing process and any related litigation;
- allocation of funding and the assignment of technical tasks to selected supporting organizations (e.g., other national laboratories, subcontractors, Federal agencies, universities, expert panels); and
- assuring technical integrity and sufficiency and product quality of the deliverables and other work supporting the licensing technical basis, and representing the technical basis to regulatory, stakeholder, and other constituencies.

In performing its roles and responsibilities as the lead laboratory, Sandia will work closely with the Office of Civilian Radioactive Waste Management to ensure achievement of programmatic technical objectives and with the Office of the General Counsel and its licensing support contractor (Hunton and Williams) to ensure a sound scientific and technical basis for the legal defense of the license application in the NRC licensing proceeding and any related litigation.

SCOPE OF WORK

LICENSING SUPPORT

Sandia Corporation (hereafter "Sandia") will manage and integrate the scientific and technical work necessary to support the preparation of, maintenance of, and updates to the post-closure portions of the license application (LA) for the geologic repository. In particular, Sandia will be responsible for: post-closure scientific programs including defining work activities and priorities related to repository science needs and creating a responsible performance confirmation program; the portions of the LA that set forth the scientific work for which Sandia is responsible in a form that permits its incorporation into the LA without further substantive work; providing information, analyses, documents, expert witnesses, and other scientific and technical support needed for the adequate and successful legal defense of the LA during the NRC licensing process and any related litigation; compliance with applicable document production and retention requirements, including those requirements related to the Licensing Support Network (LSN); allocation of funding and the assignment of technical tasks to selected supporting organizations (e.g., other national laboratories, subcontractors, Federal agencies, universities, expert panels); and assuring technical integrity and sufficiency and product quality of the deliverables and other work supporting the licensing technical basis, and representing the technical basis to regulatory, stakeholder, and other constituencies.

Sandia shall be responsible for integrating the scientific and technical tasks related to the post-closure performance assessment.

Sandia shall work with the DOE and other project participants to determine the appropriate scope of scientific and technical post-closure work to support project needs. Sandia shall be responsible for designing and preparing the appropriate analyses, conducting postclosure total system performance assessments (TSPAs) to support the repository license application, the technical aspects of construction authorization amendments, if any, and the license application amendment related technical issues needed to obtain a license to receive and possess nuclear material.

Sandia shall maintain a postclosure safety case sufficient to provide an adequate technical basis for assessing the safety of the repository system and explaining the technical performance roles of the natural and engineered systems. Sandia shall be capable of accommodating new information and periodically performing a TSPA update. The postclosure safety case must address the technical ability of the repository system to meet applicable NRC post-closure regulatory standards and to protect the health and safety of the public.

Sandia must be capable of accommodating new scientific and technical information and adjust analyses to changing Program constraints.

Sandia will supply information as requested to support updates of the Project Environmental Impact Statement (EIS)/Supplemental EIS, if needed, in accordance with all applicable requirements. Sandia will perform the work scope associated with the review of proposed Program and Project changes that could affect the environmental impacts described in the *Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (2002) and subsequent environmental baseline.

Sandia shall use their scientific and technical expertise to perform the work that includes support for preparation, approval, and submittal to NRC of subsequent updates to the post-closure portions of the LA, including an update of the license to receive and possess waste and subsequent updates as post-receive and possess construction, operations, and performance confirmation may require.

Sandia shall perform scientific and technical work that includes support for preparation of post-closure portions of the update to the LA that precedes receipt of the license to receive and possess high-level radioactive waste (HLW). It also includes support for preparation of the LA updates after NRC issues the license to receive and possess waste until the final update for closure of the facility.

Sandia shall perform the work that includes enhancement and update of the TSPA-LA model, the validation and documentation of the model, the analyses that will be completed using those models and submodels, the documentation presenting the technical results and scientific conclusions in support of the update of the LA for receive and possess, and subsequent updates to the license for the operational life of the repository.

Sandia will provide technical input for responses to requests for additional information, open items, and confirmatory items, and provide support at technical meetings with NRC staff and the Advisory Committee on Nuclear Waste (ACNW) to resolve issues during review. Sandia will support meetings and resolve issues with the Nuclear Waste Technical Review Board (NWTRB).

Sandia shall perform all work in accordance with a quality assurance program that meets requirements defined in the OCRWM Quality Assurance Requirements Document (QARD), as discussed below.

Sandia and the Department of Energy (DOE) have a common interest in NRC's granting, in a timely manner, authorization to construct a repository at Yucca Mountain and permission to operate the repository. Accordingly, Sandia shall perform all work in a manner that provides a sound and adequate scientific and technical basis for the legal defense of the license application in the NRC licensing proceeding and any related litigation. Among other things, Sandia shall, as needed and requested, make expert witnesses available, organize information and analyses in a manner consistent with and supportive of litigation strategy, provide scientific and technical responses to information requests and assistance in the preparation of motions, responses to motions, testimony, cross-examination and other litigation material in a timely manner that permits compliance with NRC schedules, and comply with LSN and other

discovery and record retention requirements. In this regard, Sandia will work closely with and provide adequate and timely scientific and technical assistance in support of the efforts of the Office of the General Counsel and its licensing support contractor (Hunton and Williams) who have primary responsibility for the legal defense of the license application.

SAFETY ANALYSES

Sandia will conduct a technically based postclosure safety analyses for the Yucca Mountain Project. This includes collection of data, conducting analyses, and developing the TSPA and performance confirmation program and associated documents. It also includes support for the writing, updating and supporting the development of the technical safety analyses related portions of the LA general information section and Safety Analysis Report (SAR), and their subsequent updates, as needed.

SAFETY ANALYSES INTEGRATION

Sandia will manage technical activities, provide coordination of technical analyses, and integration of postclosure safety analyses base support, including prioritizing the postclosure work with an emphasis on identifying scope of work that balances project management risks in the LA with other technical issues related to regulatory risks. This also includes supervision of Sandia staff; administrative support to safety analyses planning activities; establishment of controls that meet administrative, technical, and quality requirements; and identification and control of interfaces with other participants, as needed. This includes integrating and monitoring scientific and technical performance associated with safety analyses and work activities carried out at National Laboratories, contractors, and universities as appropriate. This includes providing technical and strategic input to safety analyses, as required. This includes coordination to update the features, events, and processes (FEP) identification; classification; and screening, as necessary, to address comments from DOE, NRC, NWTRB and other Agencies. The primary purpose of the revisions is to improve the transparency and traceability of scientific and technical aspects of the FEP screening decisions and their implementation in the TSPA, and to improve the defensibility of screening arguments for the LA. Work scope for Sandia includes interface with the other Project organizations and functions to ensure the safety analyses adequately address the technical content requirements of the safety analyses portions of the LA and subsequent LA updates. It includes input provisions to the LA Chapters' text associated with postclosure safety analysis in general, and integrating technical products supporting the postclosure safety analyses in order to enhance transparency and traceability for regulatory purposes. It includes the procurement of services, equipment, materials, and supplies uniquely associated with the safety analyses effort.

Sandia will perform tasks associated with the development and implementation of project control tools, systems, procedures, and guidance needed to support the performance assessment/confirmation team in the execution of its work. This also includes management and integration of work scope conducted by other National Laboratories, contractors, and universities supporting the postclosure safety models and analyses.

TOTAL SYSTEM PERFORMANCE ASSESSMENT

Sandia will maintain, document, update, and validate the TSPA model. Sandia will conduct the technical analyses using the model and document the scientific results and conclusions. Sandia will support the development of the TSPA subproducts. This includes enhancement and update of the current and next-generation TSPA models, the validation and documentation of the models, the analyses that will be completed using those models, the documentation presenting the results and conclusions in support of an update of the LA for receipt and possession of spent nuclear fuel (SNF) and HLW, and supporting the associated TSPA subproducts.

TSPA sensitivity analysis results will support the development of the Performance Confirmation Plan. Sandia will provide technical expertise to support writing, updating, and developing related portions of the LA, general information, and SAR, and their subsequent updates, as needed. Sandia will support the performance confirmation program by developing the performance confirmation testing strategy, providing specific modeling activities to support performance confirmation test plans, and using the TSPA to inform decisions on specific testing.

SUBSYSTEM MODELS

Sandia will develop, update, and support the subsystem models contributing to the following technical models that will be used in analyses of nominal and disruptive performance, as appropriate: Unsaturated Zone Flow and Transport Models; Saturated Zone Flow and Transport Model; Engineered Barrier System Performance, including Waste Package and Drip Shield Performance, and integration of coupled processes in the drift and near-field environment; and Biosphere. Work will include the investigations of natural analogs and other lines of scientific and technical evidence that support NRC acceptance of the validity of the models. Sandia will develop associated technical reports (e.g., Analysis Model Reports (AMRs)) and work necessary to support development and update of the SAR during the period prior to the issuance of a license (both construction authorization and receive and possess). Sandia will support technical meetings and resolve scientific and technical issues with NRC, ACNW, and the NWTRB. The models describe implementation of the relevant FEP that collectively support each model.

The work will result in integrated models of the thermally driven, coupled processes that affect the thermal-hydrological-chemical-mechanical environment in the host rock, especially around the drifts, and summarize the interrelations of the various submodels, as well as the connections between process models. The various technical reports (e.g., AMRs) will support the development of the applicable LA chapters and support the performance confirmation efforts for both the development of the active performance confirmation testing strategy and the specific modeling needs associated with it. Sandia will test and validate models in accordance with the requirements defined in the Quality Assurance Requirements Document (QARD).

Sandia will develop, update, and support models for predicting the long-term degradation behavior of the waste package and drip shields as identified in the design for the LA. These

include the reference materials identified for the waste package outer barrier, inner shell, SNF and HLW baskets, emplacement pallets, and drip shields.

Sandia will establish, document, and update, as appropriate, the baseline properties and characteristics for the candidate materials for each component of the waste package, drip shield, and emplacement pallet.

Sandia will perform tests, analyses, and modeling to predict the relevant range of local environments the engineered barriers will experience in the emplacement drifts, as well tests, analyses, and modeling to predict the long-term behavior of Alloy 22 and Titanium Grade 7 in those environments.

Sandia may be required to include other appropriate candidate materials and other component reference materials in the testing program to the extent needed to achieve the Waste Package Degradation Work Breakdown Structure Element objectives and satisfy the information needs identified by other Pre-closure Safety and Postclosure Safety Work Breakdown Structure Elements.

DISRUPTIVE EVENTS

A disruptive event is defined as an unlikely event that could affect the performance of the repository. Events that have an occurrence probability equal to or greater than the regulatory threshold of one chance in 10,000 in 10,000 years, and are not excluded because of low consequence to dose, will be included in the TSPA analyses (see FEP element under safety analyses integration). Sandia will evaluate the probability and consequences of igneous and seismic activity in the Yucca Mountain region and the impact on the repository. Sandia will expand the technical basis for the LA, including additional support to satisfy the criteria of NRC's Yucca Mountain Review Plan and the related key technical issues agreements.

Sandia will address the post-closure effects of seismic activity through the development of probabilistic seismic hazard analyses and site-specific seismic design inputs to support analyses of damage to engineered components and rockfall hazard. Sandia will remain cognizant of and utilize, as appropriate, data and analysis developed from seismic related tasks under the cooperative agreement with the University and Community College System of Nevada. Sandia will support technical meetings and resolve scientific and technical issues with NRC, ACNW, and the NWTRB. Sandia will conduct any specific testing to support either the probability or consequences of volcanic or seismic events. Sandia will provide technical input for update of the SAR, as appropriate, to support the license to receive and possess. Sandia will support the performance confirmation efforts for both development of the active performance confirmation testing strategy and specific modeling needs associated with it.

NEUTRONICS

Sandia will develop and apply a disposal criticality analysis methodology. The methodology applies to the criticality related analyses needed to evaluate compliance with the applicable

NRC post-closure regulatory requirements, and will include analyses of potential criticality in both the engineered and natural systems.

Sandia will support DOE in interactions with NRC to resolve the items in the revised *Disposal Criticality Analysis Methodology Topical Report*. Sandia will support development and update of the SAR to support the license to receive and possess and other updates as required. Sandia will support technical meetings and resolve scientific and technical issues with NRC, ACNW, and the NWTRB.

POSTCLOSURE SAFETY TEST COORDINATION

Sandia will coordinate testing activities related to the above scope of work and conducted underground in the Exploratory Studies Facility, east-west cross drift, and surface-based activities. These services include the preparation of field work packages, location surveys, determination of importance evaluations, and administration of data acquisition activities.

Sandia will coordinate and support testing activities for the Atlas Facility and other Yucca Mountain Project offsite locations, as necessary, and manage the Sample Management Facility. Such activities include providing test coordination interface for activities conducted under DOE's cooperative agreements with Inyo County, Nye County, University and Community College System of Nevada, Atomic Energy of Canada Limited, State of Nevada, regulators, and/or oversight bodies (NWTRB, etc.).

PERFORMANCE CONFIRMATION SUPPORT

Performance confirmation is the set of activities, including monitoring, testing, and analyses, required to help provide data that indicate, where practicable, that the systems will behave as described in the LA following repository closure. This scope of work also includes scientific and technical support for the development of the LA, including support for writing, review, comment resolution, and revision, as needed. The main focus of this work will be Chapter 4 of the SAR.

Sandia will revise the performance confirmation plan to reflect regulatory changes, changes to the LA process, and an evolving LA design. Revisions will refine the performance confirmation program, in accordance with 10 CFR 63, subpart F, and affect lower tier documents and the System Description Documents necessary to execute a successful Program based on regulatory requirements and programmatic guidance, using a risk-informed, performance-based approach. Sandia will provide input for update of the SAR during the period prior to the issuance of a license to receive and possess. Sandia will support technical meetings and resolve scientific and technical issues with NRC, ACNW, and the NWTRB.

QUALITY ASSURANCE REQUIREMENTS

When performing work for the Office of Civilian Radioactive Waste Management (OCRWM), Sandia shall implement and comply with OCRWM's QARD and the current version of the Augmented Quality Assurance. Upon notification from OCRWM that a later

version of the QARD or the Augmented Quality Assurance Program has been adopted, Sandia shall either agree to implement and comply with the applicable requirements in that version or terminate work. Sandia is responsible for ensuring all entities (i.e., National Laboratories, subcontractors, universities and other entities) comply with all applicable QA requirements.

OCRWM shall have access to Sandia National Laboratories facilities for purposes of quality assurance oversight of OCRWM-funded activities. Sandia's subcontracts will provide for similar access by OCRWM as it relates to this Statement of Work. Subject to National Security requirements, observers from NRC and State and local governments may participate in these oversight activities consistent with any agreement between OCRWM and NRC or other entity or with any applicable regulation. Sandia shall respond to all deficiencies identified as related to this Statement of Work. Sandia will notify NNSA and OCRWM whenever it believes work by Sandia or any other entity for which Sandia is responsible for the management and integration under this arrangement has been or may be performed in a manner inconsistent with NRC quality assurance requirements or OCRWM's implementation of those requirements. Any determination by OCRWM or NRC as to what action is necessary to comply with those requirements will be transmitted to NNSA SSO for CO action as necessary.

The OCRWM COR for QA will promptly notify the SSO CO of any significant contractor performance deficiencies and upon notification, the SSO CO will immediately take the necessary action to require Sandia to remedy performance or if necessary, stop work and/or terminate work consistent with the direction of OCWRM and the terms and conditions of the prime contract (DE-AC04-94AL85000). The OCRWM may withhold future funding for the work described herein in the event a QA deficiency is not promptly remedied.

Mr. SIMPSON. What overhead rate is Sandia charging your program? What percentage of all nuclear waste disposal funding that you send to Sandia is taxed by the lab to conduct at their own discretion lab-directed research and development?

Mr. SPROAT. Let me take that question for the record. I just do not know.

Mr. SIMPSON. Okay. I appreciate it.
[The information follows:]

SANDIA OVERHEAD

As of March 31, 2008, the overhead rate the Sandia National Laboratory is charging the Office of Civilian Radioactive Waste Management is 34 percent. Of this rate, 8 percent is for laboratory directed research and development.

POTENTIAL SITES FOR SECOND REPOSITORY

Mr. SIMPSON. One other question I have, if that is okay, Mr. Chairman. I expect that the Department will start its search for a second repository site looking again at the alternative sites that were initially considered for the first repository. What were those sites?

Mr. SPROAT. Before I answer that specific question, let me just go back and just clarify your lead-in to the question.

We currently do not—as a matter of fact, we are specifically—under the current Nuclear Waste Policy Act, we are specifically prohibited from beginning to evaluate a potential site for a second repository until and unless authorized by Congress. So we do not currently have the authority to do that. However, with the report we are going to send up here shortly, we will in that report talk about not only how the Yucca Mountain site was selected, but the other sites that were evaluated and how far we got in that evaluation when that decision was made.

But to specifically answer your question, in the original triage of sites for the first repository, there were nine sites in six States. And there was one in Louisiana, two in Mississippi, the Yucca Mountain site in Nevada, two in Texas, two in Utah, and one in Washington State. And those sites through their initial screening were screened down to three sites, one in Nevada, one in Texas, one in Washington State. And then based on the further refined results, Congress decided to only authorize us to fully investigate the Yucca Mountain site. At that time there were also identified up to 17 potential sites for a second repository, pretty much east of the Mississippi, and they were at 16 different States, and some of those had a little more—were looked at in a little more detail than others. But we will provide that information in the second repository study to the Congress that we will send up here in a few months.

Mr. SIMPSON. I need to have you clarify. Section 161 of the Nuclear Waste Policy Act states the Secretary may not conduct site-specific activities with respect to a second repository unless Congress has specifically authorized it and appropriated funds for such activities, which is what you just mentioned.

Mr. SPROAT. Yes.

Mr. SIMPSON. Do you interpret that language to mean the Department cannot do any work on a second repository without further authorization, or does it mean that the Department can pur-

sue studies on a variety of alternative sites for a second repository, including site-specific studies of those multiple sites, as long as you do not narrow it down to a single site?

Mr. SPROAT. The interpretation that the Department has taken, as I have been informed, is that any of those site characterization activities, site studies, requires to actually understand what is underneath the ground, drilling holes, that type of thing, and it is the Department's current interpretation of that section of the Nuclear Waste Policy Act that that is specifically prohibited.

Mr. SIMPSON. Okay.

Mr. VISCLOSKY. Mr. Fattah.

LOAN GUARANTEES

Mr. FATTAH. Thank you, Mr. Chairman. And I have a number of questions.

I come from a State that has a number of active nuclear facilities in Pennsylvania, and I generally am very supportive of nuclear. In last year's omnibus we authorized 20 billion in loan guarantees for this purpose. And in this year's budget request there is a proposal to essentially hold that over to 2011. The budget submission says that the earliest possible date for solicitation is April 15th. So the first thing I would like to know is what the status of this potential solicitation is, and then what is the down side of not proceeding forward?

Mr. SPURGEON. Congressman, the loan guarantee is a very important program to us relative to getting the nuclear industry jump-started here into these new plants. We go through a process. I have drafted an implementation plan, which by the legislation is required to come up to sit before Congress for 45 days. That is in review at this point in time preparatory to it being transmitted to the Congress. And following that, assuming approval of our plan to go forward, we would then issue solicitations immediately thereafter for loan guarantees; not just for nuclear loan guarantees, but also for loan guarantees for renewables, et cetera. And so that process is designed to go forward here this spring and summer.

Mr. FATTAH. On the nuclear, is this for front-end facilities and also—

Mr. SPURGEON. This is both for the reactor and for the front-end facilities, yes, sir.

Mr. FATTAH. As I recall, we said that at least \$2 billion should be used for front-end facilities.

Mr. SPURGEON. That is correct; \$18½ billion for the reactor program and \$2 billion for the front-end facilities. And so that will go forward.

To your question about extending the time, you know, basically we were required to complete the activity on loan guarantees by 2009, but looking at what it takes, and looking at the schedule for licensing of nuclear facilities, one of the key final steps for issuing the actual loan guarantee is the receipt of a combined operating license for the nuclear facility, and that will not happen by 2009. So we could be dealing with a conditional guarantee at that point in time conditioned on receipt of a license, but we really believe that for us to be able to complete this job, and this is not just bureaucratic, it takes a long time, properly, we do need to have that guar-

antee extended to 2011. And we also ask for some of the other guarantees to be extended to 2010 rather than the September 2009 drop-dead date, if you will.

Mr. FATTAH. When you get finished with this deal, if we were looking back at it and the 20 billion in loan guarantees, in your judgment what would we have accomplished prospectively in terms of moving these issues forward?

Mr. SPURGEON. We would have gotten started with construction of new nuclear power plants in the United States and paved the way for future continued development of nuclear energy.

Mr. FATTAH. Would you quantify that in any way? I mean, just hypothetically, what do you think we can get done with 20 billion in loan guarantees?

Mr. SPURGEON. One, what I think we can start, because I would like to see—this is my personal, this is not the administration's suggestion here—is that we would have substantially more than \$20 billion worth of guarantee authority, and, in fact, you would have some sort of a revolving fund established for continuing guarantees, much as the EX-IM Bank does for export of this technology.

But what that does for you and what it does for the consumer is lowers the cost of capital. And the number one cost in building a nuclear facility is the cost of capital. They are expensive facilities to build, but they are very inexpensive facilities to operate. So by lowering the cost of capital, allowing companies, sponsors to increase the debt-to-equity ratio, of that project, has a substantial reduction in the cost of power coming out of that facility.

We have run some numbers for one proposed plant, and going on assumptions for loan rates and capital and debt-to-equity ratio between having a loan guarantee and not having a loan guarantee, that can come up as much as 40 percent difference in the cost of power coming out of the busbar for that plant, and that translates into better things for the consumer, but also a more competitive environment for use of nuclear energy for our industry in this country.

Mr. FATTAH. Thank you very much.

And thank you, Mr. Chairman.

I understand this is Mr. Hobson's perhaps last hearing. I want to thank him for his leadership on the subcommittee and his friendship. And the Nation and its energy and water are better off because of his work.

Mr. HOBSON. Thank you.

Mr. FATTAH. Thank you.

Thank you, Mr. Chairman.

Mr. VISCLOSKY. Mr. Pastor.

Mr. PASTOR. I was checking to see if this is going to be our last hearing since everybody is saying good-bye to you.

Mr. FATTAH. Is it a rumor, or I think it is fact?

Mr. PASTOR. I was trying to find out if this is our last hearing. Okay.

Mr. SPURGEON. We understood it has already been decided this was the last hearing.

Mr. PASTOR. I ask this question after the conversation with one of my colleagues about Los Alamos and the Idaho National Lab, so

I figure I can ask it since I do not have any labs. The Idaho National Lab, as I understand, is your lead laboratory for nuclear energy.

Mr. SPURGEON. Yes, sir. I am program secretarial officer for the Idaho National Laboratory.

Mr. PASTOR. And I guess early discussions have pointed out it seems we may not be as serious of making it the lead lab. And so the question I would have is, is there a 10-year plan that would implement some of the things that we have talked about and be able to—including, as you said yourself, developing the research, developing the demonstration projects that would put us years ahead? And do we have such a master plan that you could share with us or give us some highlights this afternoon?

Mr. SPURGEON. Yes, sir. Well, this afternoon, no, but I will be glad to provide additional material relative to the long-range plan for the Idaho National Laboratory, including what is being done and what is being proposed by the laboratory themselves for their future. That is obviously something that is a job that our contractor out there, the Battelle Energy Alliance, is responsible for.

But in addition to that, what I have under way is an effort to look long range at what facilities, what research facilities, this country needs over the next 20, 30, 40, 50 years to support a resurgence of nuclear energy in the United States, with the objective that we have that as a body of data, and then we can compare that with what we have today in this country; and even taking some credit for what exists in some of our partner countries that we might be able to leverage, and with the difference between that, then develop a specific plan for implementation as to how we refacilitize the nuclear infrastructure in this country.

I would say that, you know, my colleagues in the Office of Science have done a great job at doing that in basic research. I think we need to in some ways emulate that relative to applied facilities, applied research and development, for the nuclear industry. And that is what we intend to do.

Mr. HOBSON. Would the gentleman yield for a second?

Mr. PASTOR. Yes.

NATIONAL LABORATORIES

Mr. HOBSON. One of the things we tried to do, and the Secretary kind of thumbed his nose at us, was to get the labs to have business plans and 5-year budgets. Business plans would have said where they were going to go so we could better manage the agency and would have less conflict year to year. He just kind of walked away from that. Other agencies, I might say, have not walked, such as the Corps of Engineers.

I think it would be beneficial to the long-term assets of this country. Our national labs are seed corn for this country. I am not out to close them down, I do not think we should. In fact, we should enhance them. But the missions may change. We tried to change the Cold War footprint in the nuclear weapons era and got a lot of push-back. The department just dismissed the Overskei report like it did not exist.

But I would suggest in this last hearing that somebody revisit—either this administration or the next—this idea of having what

every good business does out there. Have a plan for the future that is not just on a 2-year budget or a year appropriations budget. This country would be better served long term.

So you do not have to respond to that, but I think——

Mr. SPURGEON. I will respond. I will say I agree with you.

Mr. HOBSON. Well, the Secretary does not.

Mr. SPURGEON. I do not know about that.

Mr. PASTOR. I was trying to get back to this idea if we have designated the Idaho National Lab as the lead lab for nuclear energy, then I would have thought that possibly—and as I understand, that plan is being developed—that you would have the research, demonstration projects, the models, the mockups for where we are going to be in generating energy in the future or power in the future. And yet what disturbed me a little bit was the dialogue we were having with Los Alamos and Idaho and the possible \$15 million being directed by this subcommittee. And so I am beginning to wonder like what is happening? Are we getting away from that plan of having Idaho be the lead lab, and why are we getting this confusion, I guess my question is?

Mr. SPURGEON. Sir, not at all from the standpoint of Idaho being the lead lab, but we also have to recognize that we have unique capabilities that are resident in many of our laboratories that from a national perspective do not make sense to duplicate in several different locations. And so what Idaho does, in addition to being our lead laboratory, but as part of that function they are charged with the responsibility to coordinate that. We do have a 10-year site plan for the Idaho site, but they also coordinate activities.

For example, we are talking about Los Alamos. Los Alamos is key to our safeguards work. I mean, a lot of the classified work associated with safeguarding nuclear materials is really that expertise is resident in Los Alamos from their long time frame of dealing with weapons and how you safeguard them. We are looking to provide that kind of security for nuclear materials looking into the future and how can we better protect these kind of materials.

So it is not to say that Idaho becomes the only laboratory dealing in the nuclear arena, no. Oak Ridge has a major role to play in our nuclear development program, as does Argonne. So we have expertise that is resident in various parts of our laboratory system. The idea is to be able to effectively coordinate that, kind of one-stop shopping where we count on the Idaho laboratory to provide that coordination effort.

Mr. PASTOR. Possibly past practice and maybe even current practice—and this is the question—of having different contractors at different labs who can and may probably restrain activities, because of the personnel, the memos of understanding, contractual management; that you do not have the ability to declare a particular lab to be the lead, and yet not being able to maybe even remove some of this expertise from one area to the other because of contractual agreements you have with different contractors. But historically, I guess, that is water under the bridge, and in your tenure do you think that there could be better ways to run the labs so we can ensure that each one has a principal role in what we have an interest in and be able to be more effective and possibly more efficient?

Mr. SPURGEON. What we have put together is an R&D road map, which is designed to integrate, okay, this is where we are, and this is where we want to go, and this is the R&D that we need to perform in order to get there. Tie that then with these are the kind of facilities that we are going to need in order to accomplish those objectives. And we have that kind of a road map. And, yes, that is what from, you said, in my tenure, what I want to leave behind.

I do not think, as I mentioned to the Chairman, that we are going to get to the point of saying, and, yes, I want to build a fast reactor, and I want to build it right here, because we are not going to be that far. But I think we can identify the kind of research and development that is still going to be needed for us to get to that point and a pathway to get from here to there.

Mr. PASTOR. Sitting up here and sometimes listening to the questions other members have and your response that, due to different contractors at different labs, memorandums of understanding and actual management, that probably the system we have in place may hinder the pathway and there may be bumps in the road that may cause this not to get too into the plan as quickly as we would like or it would cause us to begin detracting from the plan, that is my concern as I sit here and listen to the conversation.

Mr. SPURGEON. There is always going to be competition, and competition for funds is always present.

Mr. PASTOR. I am not talking so much about the competition. I am talking about the system as it is set up. And different contractual agreements probably restrict you in your ability to even go forth on the plan that you have set forth and want to implement.

Mr. VISCLOSKY. I guess I would follow up on Mr. Pastor's line of questioning about Idaho's facility specifically; and I was going to address it at the end about your statement today, about the Gen IV solicitation. This may not be the best analogy, but it is the one that comes to mind, NNSA has a number of programs they want to pursue, some construction, some not. But we continue to ask them for that strategy. I would acknowledge in your case you suggest you have your strategy on GNEP. On the site plan for Idaho—and, of course, I also assume as far as the solicitation there is no determination at this point as to, what this is going to be, where it is going to be or anything else.

My concern would be, if you don't have a plan for Idaho for 10 years—and I would translate it into some of these other facilities—in the end what we end up doing is planning around other decisions that are independently made. I guess that is more a statement of concern than—

Mr. SPURGEON. Gosh. It is a challenge. Because we do have a 10-year site plan for Idaho, but yet we also then get into NEPA space and things in terms of getting to the point where we can make a particular site selection or determination for a particular facility.

Now with respect to NGNP, we are perhaps aided a little bit in that that was in the Energy Policy Act of 2005, which basically selected the site as part of the Energy Policy Act. So what we are really doing with the expression of interest is we are now getting to the point of coming down to, okay, we are going down this path and we are focusing on licensing, but now let us focus on, okay,

what is the business arrangement, what is the consortium, how are we actually going to get this project built?

Because it is going to be a cost share between government and industry. And when you get into that space, then you have to define the relative roles and you have to define how that sharing is going to take place and the vehicle that is going to be used in order to actually implement it.

UNIVERSITY RESEARCH REACTORS

Mr. VISCLOSKY. Mr. Spurgeon, we have talked about nuclear education, but there is a program for university research reactors. The research community would indicate that the \$3.7 million requested in 2009 for research reactors is not sufficient to pay for the cost of the fuel alone, let alone the cost of transporting that fuel. The indication to us is that the real need for 2009 for university research reactors is closer to \$15 million. What would be your reaction to that?

Mr. SPURGEON. The 3.7 is for fuel. When you say the real need is closer to 15, I am not sure the context in which that—and I am going to turn around to see if anybody knows the context. Okay. I am not aware of a—I have to say I thought we had a pretty open communication on the issue of research reactors and fuel, but I am not aware of how you could get from 3.7 to 15 in terms of—

Mr. VISCLOSKY. In fairness, let us get back to you and your staff, because the universities will say that is not enough for the fuel alone. And then they factored in at least transportation, if not some other factors, and the indication to us is that it is some factor of \$15 million instead of 3.7.

Mr. SPURGEON. All I can say is our intention was to be able to supply the universities with the fuel that they need for their research reactors; and if we have got some sort of a glitch here, we need to address it.

NUCLEAR POWER 2010 BUDGET

Mr. VISCLOSKY. On nuclear power 2010, the budget request for 2009 is \$241.6 million, which is an increase of \$84.3 million over the projected baseline for 2009. Why the increase in acceleration?

Mr. SPURGEON. Just as you say, there has been some acceleration in the nuclear power 2010 program. But a big part of that and about two-thirds of the increase is associated with increased regulatory costs. That is both the fees we pay to NRC for the NRC's review of the license application. That is due to additional questions and requests for information that NRC is making that then the utilities and/or the vendors that are pursuing the application need to be able to respond to.

And there have been some new requirements or I would put it in the context of very strong suggestions relative to changes in some of the basic design parameters, such as the ability to withstand a large aircraft impact, that have caused us to go back and caused the manufacturers, i.e., and utilities to go back and do a little bit of change to their standardized design program.

Mr. VISCLOSKY. No.

Mr. SPURGEON. That is about two-thirds of it. They are getting more specific and more detailed in the design.

And maybe I should say this. Historically, when this program was begun, it was somewhat theoretical. Because it was the idea of can we pursue a license application through the NRC to get a combined operating license to demonstrate the process without there being anyone at that point in time ready to sign up or seriously interested in actually building a plant.

Well, along the way, fortunately, and successfully I would say, is that we now have nine combined operation license applications. So what have developed for both the boiling water reactor and the pressurized water reactor was a need for more detail relative to the design in order to enhance the level of detail in the design in order to allow it to be not only licensed but, in effect, look to the point where it can be effectively priced.

Mr. VISCLOSKY. Let me ask you this. Earlier in the decade, we were told on the baseline projections that the total amount that was going to be requested for 2010 was \$586.5 million. If 2010 would be fully funded at the administration's request for 2009, that would mean that the amount necessary to fill out the program in 2010 is \$5 million. Is that all it is going to be in 2010?

Mr. SPURGEON. I anticipate that we will request more than that in 2010 but that the program will come to an end in 2011 as was originally planned, and the additional funds would be as I have indicated from the standpoint of what the changes were.

Mr. VISCLOSKY. The baseline for '10 is \$93.1 million, and the baseline for '11 is 29.2, and then there is residual, I assume, to close out the '12. So you are right about the '11. What should we anticipate?

Mr. SPURGEON. I will get you a number. Obviously, we are in the 2010 budgetary process right now.

[The information follows:]

NUCLEAR POWER 2010 FUNDING

For planning purposes, the Department has estimated that \$136.6 million is needed in FY 2010 to complete the program scope by 2011.

Mr. VISCLOSKY. Everybody here who has spoken today supports nuclear power, and I am not only speaking for myself. But \$586 million cash to the industry to apply for licenses that they can make a profit, when does it end? We just had a discussion about \$20 billion in loan guarantees, and there is a suggestion that there has to be an extension of that, and there is a cost to us in the budget for that. And the government is doing research and development. You have talked about GNEP at some significant cost.

I misspoke earlier, and I am going to retract my statement and point out that you did request \$10 million for life extension programs for existing reactors. I misspoke. You are correct, and I am not. And there are other dollars here. How much do they need to get started?

Where I come from in Gary, Indiana, \$586 million to push paper in license applications to show you can get something done, along with \$20 billion, that ought to at least turn the key in the engine.

Mr. SPURGEON. First of off, let me say, relative to your comment, yes, I think it is turning the key in the engine. And the proof of the pudding is that we have these license applications going through, and we just announced yesterday or the day before that

there has been an EPC contract entered into with Southern Company and Westinghouse.

Mr. VISCLOSKY. Things are going smoothly, so we don't need—

Mr. SPURGEON. Sir, we are like on the roller coaster. You know, we are chugging up to that first hill. We are not quite over the top yet. Because what we are trying to do is get it over the top so that it can have its own momentum for that point forward. But the point is that this is a cost share program with industry. Industry is putting up the same number of dollars. In fact, more, because—and there is probably somebody here from NEI that—

Mr. VISCLOSKY. Will they make a profit?

Mr. SPURGEON. Well, hopefully, yes. We certainly hope they will make a profit, because that indicates things are going well in the nuclear industry. And what this can do for jump-starting not only our own energy security in this country but what it can do for jobs is just enormous.

Mr. VISCLOSKY. I am not arguing any of that. I am asking, how much do the taxpayers owe one particular industry, cold cash, to work through a licensing process? And you are going to get back to us on 010—not 010, 10.

Mr. SPURGEON. 10.

Mr. VISCLOSKY. Ballpark, 100, 150, 125?

Mr. SPURGEON. I will give you a straight-out speculation. Because between me and coming to you next January stands a number of hurdles that we have to cross. But if we had our way, I think we would probably be in the order of \$140 million.

Mr. VISCLOSKY. Which then leaves us with 2011. Do you want to speculate—

Mr. SPURGEON. Now, that one I think we are back down. We are basically done in 2011. That is cleanup in 2011, because the license application will be—

Mr. VISCLOSKY. We were told we would be done at \$586 million.

Mr. SPURGEON. I understand, sir. And I think this program, albeit with a \$90 million change, has turned out to be very beneficial to the taxpayer and the ratepayer in this country.

Mr. VISCLOSKY. I am going to turn to Mr. Hobson.

I would just say that that is breathtaking and would also add to the list of monies that the taxpayers are providing to the industry the educational monies that are now spent through the national Nuclear Regulatory Commission, as well as the increase in funding for the Nuclear Regulatory Commission, all of which also assists the nuclear industry.

Mr. Hobson.

YUCCA MOUNTAIN CAPACITY

Mr. HOBSON. I want to ask the question about Yucca and the Department's plan when it is filled. When Yucca has reached capacity, will you look at spending more on another repository site or do you assume we will be recycling by then? Will we find some other ways to do things? At what are you looking now?

Mr. SPROAT. As you know, Congressman, the current legislative limit on the capacity of Yucca Mountain is 70,000 metric tons heavy metal. And one of the things, just so that the committee is

clear, that a lot of people don't recognize is that number is based on the front end of the fuel cycle.

So, in other words, if I took all 70,000 metric tons of spent nuclear fuel at Yucca and put it through some magic process so it could fit in this glass, if it was over 70,000 metric tons in the beginning I couldn't put it in Yucca.

So in the report we are going to send up here to the Hill in a month or two, we are going to talk about the options, and we are going to give you recommendations. But the least-cost, fastest recommendation is to legislate away the 70,000 metric ton limit and allow the Nuclear Regulatory Commission to set a licensed limit based on our evaluation of the technology of the mountain. And we will address what studies we have already done that give us some indication of what that limit is, and it is probably at least double the size.

GNEP TRAVEL

Mr. HOBSON. I am going to ask a question about travel. Basically, the committee requested several years ago for the Department to provide us with a listing of all the foreign travel conducted in relation to GNEP. The total amount of funding spent was really not enormous, but the details of these trips are somewhat troubling. Let me read you one example.

In 2006, after you took over as Assistant Secretary, a contractor from Los Alamos traveled to France and Romania. The stated purpose of the trip was to attend a conference in France and present a paper on nuclear fuel materials.

Reading further, one discovers that the traveler from the laboratory is actually the same individual who organized this conference in France. That is a pretty good deal when you can get away with it, especially since it was a month-long trip to Europe where the dollar is not particularly good. We would have been better off having it here.

Who approves this kind of stuff? Do you do that or does somebody else do that?

Mr. SPURGEON. Well, I would not be directly involved in approving that particular kind of travel. We do have a number of technical interchanges. Most of the travel, when we break it down, is——

Mr. HOBSON. But do you understand the perception problem with something like that when people start looking at this stuff and they say, hey, this guy got a month-long trip to present a paper on a thing he put together.

GNEP has been a good source of foreign travel. I am particularly in trouble that what we have done is gone out, enlisted people to get into this thing, especially in light of the committee's concern about GNEP and the additional partners we are getting.

I don't think that Senegal brings a whole lot of value in this deal. I have been to Senegal some time ago, and it just doesn't make sense to me. These are the kinds of things that give us problems in spending Federal dollars. It is the perception of what goes on.

Anyway, let me just say—the last thing I want to say today. I have a number of questions I am not going to ask.

Gentleman, I want to thank you for your service. I know we beat you up on this stuff. That is our job.

I do think, and I will say this publicly and I have told you this before, there needs to be more private dialogue between the Department and us. We could avoid a lot of problems as we did with the Corps of Engineers a couple of years ago. We get along a lot better. It would be better if we had more of a back and forth before we get to these hearings, and if we had more meetings along the way, rather than just the pistols going out.

I hope in the rest of this year we will all try to come together and talk as we go through this thing. I hope you will leave to your successors the idea that the better way to do things is to listen and try to work with the committees. It makes everybody's life a lot easier. Maybe these hearings aren't as much fun for us, but they would be more fun for you.

The greatest source of dialogue, unfortunately, winds up being the committee; that is not the best place to do it. I will leave you with that thought.

We have tried to say it before. But with the Department of Energy, it just really hasn't worked real well. I don't know how you do it the last 9 or 10 months, but I hope we can work together. It would make the dollars spent a lot better and waste a lot less time on reports, if everybody could get this mutual understanding of trust with each other. It doesn't have to be adversarial like it seems to have gotten.

Both of you are very qualified people and have some good staff people. We just need to figure out how we work together better.

Thank you very much.

Thank you, Mr. Chairman; and I thank everybody for their comments. I have to take a phone call on a nuclear energy problem that I am trying to fix before I leave here which will make Leslie and some other people happy if we can get it done. Thank you very much.

Mr. SIMPSON. Mr. Chairman, just a quick question.

I am going to have some questions that I submit for the record, Mr. Secretary, particularly the fact that we have appropriated about \$200 million for NGNP over the last 4 years, including \$115 million last year. I want to look at the plans that the Department has for how you are going to spend the \$115 million this year and a detailed list of how the funds have been spent over these 4 years on NGNP. I will submit that for the record.

[The information follows:]

NEXT GENERATION NUCLEAR PLANT FUNDING

During the first quarter of FY 2008, while under the continuing resolution, funds were allocated in accordance with the President's Budget Request. This included allocating \$1.3 million to non-NGNP and non-VHTR Generation IV systems. Once the FY 2008 appropriation was finalized in December, our funding shifted in response to the associated report language. In accordance with the Congressional request, we have allocated \$38 million to establish a reference conceptual design and baseline cost estimate for the NGNP, \$26 million to advancing gas reactor technology, \$25.8 million to establish a licensing strategy and aggressive preapplication program with the NRC, \$8.6 million for work with Russia on gas reactors, and \$6.7 million for Deep Burn studies for gas reactors. Funding is also allocated for Congressionally Directed Projects (\$3.9 million) on technology transfer and crystal diamond optical switches, technical support to the Generation IV International Forum (\$1.3 million), cost and schedule earned value systems (\$820,000), and an overall budget rescission (\$1.1 million). Approximately \$2.3 million remains in Headquarters to be allocated as needed to address emerging or troubled areas as appropriate.

In the past 4 years, FY 2004-FY 2007, **NGNP** funding was as follows:

Program/Activity	FY 2004	FY 2005	FY 2006	FY 2007
Gen IV Total	\$22,506,000	\$39,683,000	\$53,263,000	\$35,214,000
NGNP¹	\$14,406,000	\$25,000,000	\$38,737,000	\$26,415,000

Work in each year was conducted in the areas of design, licensing, and on advancing gas reactor technologies such as nuclear fuel, analytical codes and methods, and high

¹ Any slight deviations from appropriation language are due to rescissions and/or hold back for SBIR.

temperature metals and graphite. Of the roughly \$105 million allocated to NGNP in FY 2004-FY 2007, \$21 million was spent on design studies, \$70 million was spent to advance gas reactor technology, and the remaining \$14 million was spent on licensing and on enabling project supports that include technical support to the Generation IV International Forum and cost and schedule earned value systems.

Mr. SIMPSON. And just to clarify—not to clarify but to make sure I have it clear in my mind, the INL is in the NE's direct chain of command. It is an NE laboratory, right?

Mr. SPURGEON. Yes, it is.

Mr. SIMPSON. Argonne National Lab, Oak Ridge National Lab and some others, they are not in the direct chain of command, but there is no statutory bar on control of those?

Mr. SPURGEON. Right. They are science laboratories, yes, sir.

Mr. SIMPSON. You do work with—

Mr. SPURGEON. Yes, sir.

Mr. SIMPSON. Los Alamos, Livermore and Sandia. There is, in fact, a statutory bar on any exercising authority, direction or control over any of the labs, right?

Mr. SPURGEON. That is correct.

Mr. SIMPSON. Now the question, Mr. Sproat, I know you have said that even if the U.S. pursues recycling and a permanent repository is needed for defense spent nuclear fuel and high-level waste, with the exception of Navy fuel, the national spent nuclear fuel program at the Idaho National Laboratory has prepared for your office the licensing documentation for the defense nuclear fuel and high-level waste. Does the EM decision not to request funds for this program in 2009 jeopardize the ability to defend the license and ultimately dispose of the material?

Mr. SPROAT. I don't know, Congressman. That is the first time I have heard about that proposal, and I have had no conversations with any folks that I know about this. So it is really the first time I have heard about the issue.

Mr. SIMPSON. Could you get back to us and talk to them and see if it jeopardizes your ability to defend this?

Mr. SPROAT. Yes. That is my top priority.

Mr. SIMPSON. I appreciate that. Thank you.

[The information follows:]

NATIONAL SPENT NUCLEAR FUEL PROGRAM AT THE IDAHO NATIONAL LAB

The Offices of Civilian Radioactive Waste Management (OCRWM) and Environmental Management (EM) have worked closely in the past to ensure the Department realizes its strategy for the permanent disposition of its spent nuclear fuel and high-level radioactive waste. As we proceed through the licensing process for the Yucca Mountain repository, we will be looking to EM for technical support in responding to any inquiries and requests for information from the Nuclear Regulatory Commission (NRC) concerning defense spent nuclear fuel and high-level radioactive waste. EM recognizes the importance of the unique capabilities of the National Spent Nuclear Fuel Program, including its role in supporting OCRWM to adequately address NRC inquiries and requests during the licensing review process. EM will take the appropriate measures to support the defense of the license application.

Mr. SIMPSON. And I do want to thank both of you for the work that you do. I know you come in with a flak jacket and all that kind of stuff. But, actually, the give and take is good for the committee and I think good for the Department. So I appreciate it. Thank you.

NEXT GENERATION NUCLEAR PLANTS

Mr. VISCLOSKEY. A couple more questions.

Mr. Spurgeon—and, again, I would stand corrected because there is apparently \$10 million in your budget to develop technologies

and practices that could help increase the life of today's plants. Two quick questions on that.

It is in the Gen 4 nuclear energy systems initiative, which is focused on the next generation of nuclear reactors, is that the most appropriate place for that program to be run? And the follow-up question is, how much could you effectively use to help existing facilities? You talked about the strides that have been made as far as productivity.

Mr. SPURGEON. Yes, sir, I think it is good seed money to get started. If that program is as successful as I think it could be, we would obviously be coming back for that line to continue to be increased because it provides the least expensive way to be able to sustain nuclear capacity. Obviously, plants that are already written off, they are there. They are already fully depreciated. Even though it may cost some money to do whatever retrofits would be required in order to allow license extension, that is money very well spent.

Relative to the line item—I am not trying to duck this—but this gets into the philosophy of not creating new line items or trying to—because I would frankly tell you when we originally submitted this, I put it in a different line item. But this was in terms of the budget submission and decided to be consolidated and that was determined to be the best place to consolidate it.

Mr. VISCLOSKY. On the money side, from your perspective, 2010 is adequate to start—

Mr. SPURGEON. I think 2010 is adequate to start, yes, sir.

Mr. VISCLOSKY. If you could—and we have had some discussion already about the fuel bank. Could you just give impressions of the fuel bank program and where you are and the Department is for 2008 and looking at 2009?

Mr. SPURGEON. We have announced that we—when we talk about blending down 17.4 metric tons of highly enriched uranium—and, by the way, NNSA is the organization that does this, so that I am being clear as to where these programs reside. But I am going to make a guess here. Blended down, that is worth about half a billion dollars, \$500 million or so. So the U.S. contribution to this fuel bank is very substantial, and the Secretary has publicly supported our participation in this.

The things that then go on and what we are doing, and there have been meetings in Vienna with a number of people, there were a number of proposals as to how this bank will actually operate. And you now get into the weeds of, okay, we now have the material in the bank. What are the conditions under which you can draw the material from the bank? How do we set that up from an IAEA standpoint? How do they administer it?

That is where the system is now. We have had people say that are going to support the concept, and now it gets down into the nitty-gritty. Now let's develop the basic operating vehicles that are going to allow it to function.

BENEFITS TO NEVADA FOR ACCEPTANCE OF REPOSITORY

Mr. VISCLOSKY. Mr. Sproat, one last item on Nevada. And there has at least been general question as to how many dollars have been spent in Nevada on Yucca. But are there specific benefit pro-

grams that have been discussed for the State in anticipation of their acceptance of the depository?

Mr. SPROAT. The Nuclear Waste Policy Act specifically authorizes the Secretary of Energy to engage in discussions with the State of Nevada on potential benefits packages, everything from payments in lieu of taxes to a wide range of opportunities. Once the Yucca Mountain site was selected by the Congress back with the Nuclear Waste Policy Act Amendment back in 1987 and the State made the decision that it would fight the repository, the State has been unwilling to enter into any discussions whatsoever with the Federal Government regarding a benefits package. So, essentially, you know, I know that there were attempts to have discussions before, and they have been rebuffed.

Mr. VISCLOSKY. So it is not a question of losing them. It is just at this point there is no discussion—

Mr. SPROAT. The State has shown no interest in having any discussions on that issue.

Mr. VISCLOSKY. I want to thank the members who are here, as well as Mr. Hobson in absentia, and Mr. Spurgeon, Mr. Sproat for your time and especially your courtesy in staying during the votes. It was a disruption, but I appreciate that.

And, obviously, we aren't in unanimity on all issues, but I would add my voice, and I appreciate your service. And, Mr. Sproat, in particular you have a very difficult—I mean you both do—but Yucca has been very hard as far as the financing issue. And from what you are saying, Mr. Sproat, you have learned many things in the last couple of years.

Mr. SPROAT. Yes, I have. But I appreciate the committee's support.

Mr. VISCLOSKY. We learn every day.

Gentlemen, thank you very much.

[Questions and Answers for the Record follow:]

QUESTIONS SUBMITTED BY

CHAIRMAN VISCLOSKY AND RANKING MEMBER HOBSON

OFFICE OF NUCLEAR ENERGY AND CIVILIAN RADIOACTIVE WASTE
MANAGEMENT

NEED FOR OVERARCHING NUCLEAR WASTE STRATEGY

Chairman Visclosky and Ranking Member Hobson. Mr. Sproat, I think you're doing admirable work pursuing the Yucca repository. And Mr. Spurgeon, you seem fully occupied with GNEP, notwithstanding the skepticism you often sense from us here in Congress. What we're missing, at the policy level, is a comprehensive description from the Administration explaining in detail how these initiatives will work together to manage a nuclear renaissance. It seems to me that there are several long poles in the tent – raising the cap at Yucca and developing a viable recycling technology – that really form the foundation of our nuclear waste strategy.

Is that statement essentially correct? From your perspective, what are those “long-poles”?

Mr. Sproat. Yes. There are several items that would be considered “long-poles” regarding how the Global Nuclear Energy Partnership (GNEP) initiative and the Yucca Mountain repository effort would work together to manage a nuclear renaissance. Raising the statutory limit of Yucca Mountain and providing funding reform are critical legislative changes that must take place to support this effort.

Chairman Visclosky and Ranking Member Hobson. Given the controversial history of nuclear waste, it's likely that one or more of these critical issues will fail. Do you have a “Plan B” for either Yucca or recycling?

Mr. Sproat. The Administration is currently implementing the Nuclear Waste Policy Act of 1982, as amended, which directs the Department of Energy to submit an application seeking authorization to construct the Yucca Mountain repository. To facilitate the expeditious licensing and construction of the repository, the Administration has proposed legislation to amend the Act which would address land withdrawal, access to the Nuclear Waste Fund, necessary infrastructure and other matters. The Administration believes that enactment of such legislation would promote the timely development of the repository and implementation of the mandates set forth in the Act.

Chairman Visclosky and Ranking Member Hobson. Congress has repeatedly tried to help you develop a Plan B, whether through interim storage, advanced burner reactors, or second repositories. How much progress have you made toward those options?

Mr. Sproat. While interim storage legislation has been introduced, it has not been enacted and Congress has not amended the Nuclear Waste Policy Act to eliminate the provisions that currently constrain the Department's ability to undertake interim storage. As requested in the House Report that accompanied the Consolidated Appropriations Act, 2008, the Department is in the process of preparing a report on the interim storage of spent fuel from decommissioned reactors and expects to submit this report this summer. In addition, the Nuclear Waste Policy Act directs the Department to develop a report on the need for a second repository and provide that report to the President and the Congress between 2007 and 2010. The Department is in the process of preparing its report on the need for a second repository and expects to submit it this summer.

WORK ON ALTERNATIVES TO YUCCA MOUNTAIN

Chairman Visclosky and Ranking Member Hobson. Mr. Sproat, you have previously indicated that the Yucca Mountain repository will be full to its presently authorized capacity of 70,000 metric tons by the year 2010. At that time, we will have 63,000 metric tons of commercial spent fuel destined for the repository. You will also have 7,000 metric tons of defense spent fuel and high-level radioactive waste. As we discussed at your hearing last year, that represents somewhere between one-third and one-half of the high-level waste in the entire DOE complex.

Is that information still essentially correct?

Mr. Sproat. Yes, the first 7,000 MTHM of defense spent nuclear fuel and high-level radioactive waste that can be disposed of in Yucca Mountain under the statutory limit of 70,000 MTHM will represent approximately one-half of the MTHM of the spent nuclear fuel and high-level waste from the Department of Energy complex that is destined for disposal in Yucca Mountain.

Chairman Visclosky and Ranking Member Hobson. What is the total number of operating reactors we have today, both for commercial power generation and for research, and is it correct that this fleet of reactors generates approximately 2,000 metric tons of spent fuel each fiscal year?

Mr. Sproat. There are a total of 104 operating commercial nuclear power reactors and three operating commercial research reactors which together generate slightly more than 2,000 MTHM of spent nuclear fuel each year.

WORK ON ALTERNATIVES TO YUCCA MOUNTAIN

Chairman Visclosky and Ranking Member Hobson. Now for both Mr. Spurgeon and Mr. Sproat, I want to talk about how you forecast the size of our reactor fleet changing over the next fifty years.

For all the investments we are making in nuclear research and financial support to the industry, how many new reactors will we see, and will those replace aging reactors so the size of our fleet stays constant, or will the size of our fleet grow?

Mr. Spurgeon. The oldest reactors in the current U.S. fleet will start to be retired after 60 years of operation in 2029. For nuclear power to maintain its current 19 percent of the generation mix, new nuclear capacity will need to be added at a rate that will replace existing reactors as they are retired and make up for increasing growth in electricity demand. Achieving this would require ramping up to an average annual build rate of about six gigawatts-electric (GWe) of new nuclear capacity after 2029. By way of comparison, for nuclear power to grow to a 30 percent share of electricity generation, it would require an average annual build rate of about eight GWe of new nuclear capacity starting in 2025, a rate that was surpassed in the early 1970's.

Chairman Visclosky and Ranking Member Hobson. Given this forecast for our future reactor fleet, how much spent fuel will they generate annually after the year 2010 is 2,000 metric tons per year still a good rule of thumb, or will that number increase as more new reactors come on line?

Mr. Spurgeon. Two thousand metric tons of spent fuel per year would be a good rule of thumb for the average annual used fuel discharged if our capacity remained at today's level of about 100 GWe. The average amount of used fuel that U.S. reactors will generate annually will grow as our total installed capacity grows to replace existing reactors as they are retired and to make up for increasing growth in electricity demand.

To maintain nuclear power's share of the electricity generation mix in 2050 at today's percentage (19 percent), we would need to have nearly 160 GWe in operation. This much nuclear capacity would generate about 3,100 metric tons of used fuel. There would need to be nearly 250 GWe of nuclear capacity in operation to provide 30 percent of our electricity in 2050, generating about 4,800 metric tons of used fuel per year on average. These may sound like very large numbers, so let me put them in some useful context. The Environmental Protection Agency's Toxic Release Inventory Program collects information on disposal or other releases (and other waste management activities) for over 650 chemicals from industrial sources in all 50 states and the U.S. territories. In 2006, those industrial sources released over 4 billion pounds of toxic chemicals, about 5,500 short tons per day. Forty-eight hundred metric tons is 5,300 short tons. Therefore, the amount of used fuel that would be produced by reactors if nuclear power generated 30 percent of our electricity in a full year is less than the amount of toxic chemicals produced in a single day.

WORK ON ALTERNATIVES TO YUCCA MOUNTAIN

Chairman Visclosky and Ranking Member Hobson. The Department has proposed legislation to lift the statutory cap on the capacity of Yucca Mountain, making it relatively straightforward to expand the capacity of 130,000 metric tons that was evaluated in the repository EIS.

Given your estimate of spent fuel production in the years after 2010, and the need to dispose of the remainder of our defense spent fuel and high-level waste, when would this capacity of 130,000 metric tons be reached for an expanded Yucca Mountain repository? Assume, just for the moment, that there is no viable domestic nuclear recycling capacity.

Mr. Sproat. If Congress removes the statutory limit of 70,000 MTHM for the repository, the Department could dispose of the total currently projected quantities of spent nuclear fuel and high-level radioactive waste at Yucca Mountain eliminating indefinitely a need for a second repository. Current planning assumptions estimate that if the statutory limit were to be lifted, Yucca Mountain would accept 130,000 MTHM by 2076.

WORK ON ALTERNATIVES TO YUCCA MOUNTAIN

Chairman Visclosky and Ranking Member Hobson. Now, let's talk about domestic recycling.

- What are DOE's assumptions for recycling after 2010?
- How much of this would come from AFCI facilities? How much from the private sector? How long would it take to develop this capacity?

Mr. Spurgeon. With regard to domestic recycling our assumptions have been that:

- By approximately 2010, the cumulative quantity of commercial used nuclear fuel in the nation will reach the amount currently allocated for Yucca Mountain, i.e., 63,000 metric tons initial heavy metal (MTHM).
- 63,000 MTHM of used fuel would be placed in Yucca Mountain, beginning when the repository becomes operational.
- Recycling technology development and deployment could take place at various scales and timeframes, from continued R&D of advanced recycle technologies, to an engineering scale demonstration capacity (approximately 100 MTHM/year separations capacity), to one or more larger-scale plants (approximately 800 MTHM/year or more capacity), or a combination of these.
- If recycling proves to be successful and is deployed at the national level, with an objective of avoiding direct permanent disposal of used fuel in excess of 63,000 MTHM, then a few to several large scale recycling facilities would need to be built over time to address additional used fuel generated from the existing fleet as well from new reactors. Currently, the existing fleet of light-water reactors (LWR), with a total generating capacity of 100 billion watts of electrical power, i.e., 100 gigawatts electric (GWe), produces approximately 2,000 MTHM of used fuel per year. Thus, a cumulative annual capacity to recycle this amount of used fuel in the future would stem growth in future used fuel inventories. Some additional level of recycling capacity would be needed to work off the used fuel in excess of 63,000 MTHM, and this depends on the timeframe for deployment of recycle facilities. If nuclear power generating capacity doubles over the next half century, then approximately twice the LWR used fuel recycling capacity (i.e., 4,000 MTHM/yr) would be needed. The exact capacity required could vary, depending on such factors such as the timing for deployment of recycle facilities, the overall growth profile of nuclear power, facility availability, nuclear fuel burnup, and timing for introduction of advanced recycling reactors.

AFCI R&D facilities would not recycle significant quantities of commercial used fuel. The current concept for an Advanced Fuel Cycle Facility (AFCF) design has an operating capacity is approximately 75 MTHM/year. The AFCF Facility could be operational around 2020-2025.

Industry has preliminarily indicated that it believes, under certain conditions, a business case could be made for the deployment of commercial scale domestic recycling facilities within the next 20 years. Industry consensus is that the first prototype advanced recycling reactor would likely require government funding. If successfully demonstrated and economic, commercial advanced recycling reactors could be in wide-scale use later this century.

Chairman Visclosky and Ranking Member Hobson. Let's pull it all together. In order to avoid a second, third, fourth, or eighth repository, how much of a recycling capacity will we need in the United States, and by when?

If we do not develop this capacity, is there any other option that you see besides multiple repositories?

Mr. Spurgeon. To avoid the continued accumulation of commercial used fuel inventories, a reprocessing facility with capacity at least equivalent to the annual amount of used fuel generated from nuclear power in this nation today is needed. Reactors area also needed to recycle the separated materials from spent fuel in order to avoid the accumulation of separated plutonium and other transuranic materials. Some additional capacity beyond this amount may be desirable to reduce inventories that have accumulated in excess of 63,000 MTIHM prior to achieving this separations capacity level. Today the annual amount of used fuel generated is approximately 2,000 MTIHM/year. At this rate, a repository with a capacity of 70,000 MTIHM for used fuel would become filled every 35 years. Growth in nuclear power beyond current levels will increase this frequency.

Multiple repositories can be expected to be required for used fuel disposal over time, if advanced recycling capabilities are not developed in the long-term. Even with recycling, however, repository capacity will still be required for disposal of high level radioactive wastes. The potential benefit of recycling in extending repository capacity will depend on a number of factors including repository design, geology, waste form characteristics and disposal regulations, fuel burnup, the specific radionuclides recovered during recycle, and type of recycle (limited or continuous).

WORK ON ALTERNATIVES TO YUCCA MOUNTAIN

Chairman Visclosky and Ranking Member Hobson. What is the Department's plan, if any, for spent fuel after the capacity of a 130,000 metric ton Yucca Mountain is reached? Will you look at expanding Yucca even more, look at another repository site, or do you assume we will be recycling all of our spent fuel by that time?

Mr. Sproat. If Congress removes the statutory limit of 70,000 MTHM for the repository, the Department could dispose of the total currently projected quantities of spent nuclear fuel and high-level radioactive waste at Yucca Mountain and potentially considerably more, thereby eliminating indefinitely a need for a second repository. If recycling is available in the future, the Department can evaluate the use of the recycling technology for the spent nuclear fuel generated then and in the future, as well as the feasibility of developing sufficient capacity to recycle any then existing inventories of spent nuclear fuel. The Yucca Mountain repository would be able to handle the high-level radioactive waste that resulted from the use of recycling technology.

Chairman Visclosky and Ranking Member Hobson. Mr. Sproat, the success of Yucca Mountain hinges on overcoming the opposition of the Senate to the repository. There are many ways that this project can be blocked, both in Congress and in the courts.

What backup plans does the Department have if the Senate continues to be effective in blocking progress on the repository?

Mr. Sproat. The Administration is implementing the Nuclear Waste Policy Act of 1982, as amended, which directs the Department of Energy to develop a permanent national repository for the disposal of spent nuclear fuel and high-level radioactive waste. As noted above, the Administration has proposed legislation to amend the Act and facilitate implementation of its provisions more effectively.

SECOND REPOSITORY

Chairman Visclosky and Ranking Member Hobson. Section 161 of the Nuclear Waste Policy Act states that *"The Secretary may not conduct site-specific activities with respect to a second repository unless Congress has specifically authorized and appropriated funds for such activities."*

Do you interpret that language to mean that the Department cannot do any work on a second repository without further authorization, or does it mean that the Department can pursue studies on a variety of alternative sites for a second repository, including site-specific studies of those multiple sites, as long as you don't narrow those studies down to a single site?

Mr. Sproat. The Department can conduct site-specific activities with respect to a second repository only if Congress provides specific authorization and appropriations to conduct those activities. The Nuclear Waste Policy Act of 1982, as amended, directs the Department to develop a report on the need for a second repository and provide that report to the President and the Congress between 2007 and 2010. The Department is in the process of preparing the report on the need for a second repository and expects to submit it this summer.

Chairman Visclosky and Ranking Member Hobson. Please provide a copy of the legal memorandum from your Office of General Counsel advising you what you can and cannot do on the second repository under existing law.

Mr. Sproat. While the Department conducted second repository siting activities prior to enactment of the 1987 amendment to the Nuclear Waste Policy, the amendment directed the Department to terminate all such activities. Section 160(a)(2) of the Nuclear Waste Policy Act as amended provides: "The Secretary shall terminate all site specific activities (other than reclamation activities) at all candidate sites, other than the Yucca Mountain site, within 90 days after the date of enactment of the Nuclear Waste Policy Amendments Act of 1987." Section 161 further provides that "[t]he Secretary may not conduct site-specific activities with respect to a second repository unless Congress has specifically authorized and appropriated funds for such activities." A legal memorandum as requested does not exist.

Chairman Visclosky and Ranking Member Hobson. The law directs the Secretary to report to the President and the Congress on the need for a second repository on or after January 1, 2007, but not later than January 1, 2010.

What is the status of your report to Congress on the need for a second repository?

Mr. Sproat. The Department is in the process of preparing a report on the need for a second repository and expects to submit the report this summer.

Chairman Visclosky and Ranking Member Hobson. I expect that the Department will start its search for a second repository site by looking again at the alternative sites that were initially considered for the first repository. Please tell the Committee the list of candidate sites.

Mr. Sproat. The candidate sites initially considered for the first repository other than Yucca Mountain in Nevada were:

Vacherie dome, Louisiana,
Cypress Creek dome, Mississippi,
Richton dome, Mississippi,
Deaf Smith County, Texas,
Swisher County, Texas,
Davis Canyon, Utah,
Lavender Canyon, Utah, and
Hanford, Washington.

Chairman Visclosky and Ranking Member Hobson. In the FY2007 House report, we provided funding and directed the Department to pursue interim storage. We also included direction that, if the Department did not have clear statutory authority for interim storage by the end of FY2007, then you should apply those remaining funds to non-site-specific activities to select a second repository. Under the year-long Continuing Resolution for FY2007, and the CR for the first part of FY2008, have you paid attention to any of this House guidance?

Mr. Sproat. Yes. The Department determined that the \$30 million, not to be derived from the Nuclear Waste Fund, provided in the FY 2007 House report to fund a process for selecting and licensing one or more interim storage sites should be provided to the Office of Nuclear Energy to support the GNEP effort to evaluate potential sites for GNEP facilities. Those funds were expended as directed, by the Office of Nuclear Energy, in their effort to identify volunteer sites for GNEP facilities, including spent fuel recycling facilities that would provide interim storage of spent nuclear fuel related to the recycling facility.

BENEFITS FOR HOSTING REPOSITORY

Chairman Visclosky and Ranking Member Hobson. The Nuclear Waste Policy Act authorizes benefits to be provided to the State hosting the repository.

What sort of benefits have been discussed for the State of Nevada, or if not formally discussed, what kind of ideas have been floated for such benefits?

Mr. Sproat. The Nuclear Waste Policy Act of 1982, as amended, specifically authorizes the Secretary of Energy to engage in discussions with the State of Nevada on potential benefits packages. The Act specifically authorizes payment under a benefits agreement with the state of \$10 million per year prior to the first receipt of spent fuel at the repository.

Since the Yucca Mountain site was selected under the 1987 Nuclear Waste Policy Amendments Act for further site characterization activities, the State of Nevada has been unwilling to enter into any discussions with the Department regarding a benefits package.

Chairman Visclosky and Ranking Member Hobson. If Nevada continues to oppose the repository, is it correct that they stand to lose all of those potential economic benefits?

Mr. Sproat. The State has not shown any interest in having discussions on the benefits issue. Under the Nuclear Waste Policy Act of 1982, as amended, the Department of Energy continues to have the authority to enter into negotiations for a benefits agreement with the State of Nevada.

Chairman Visclosky and Ranking Member Hobson. Are these benefits presently authorized for any additional repository sites beyond Yucca Mountain?

Mr. Sproat. There is a limitation in the Nuclear Waste Policy Act that only one benefits agreement for a repository may be in effect at any one time.

STATE OPPOSITION TO THE REPOSITORY

Chairman Visclosky and Ranking Member Hobson. In our appropriation bills in recent years, we have included statutory language prohibiting the State of Nevada and the affected units of local government from using appropriated funds to influence, directly or indirectly, legislative action, to lobby, or to pay for litigation related to the repository.

Beyond the self-certification by the Governor of Nevada, how do you verify that the State and local governments are actually complying with this restriction?

Mr. Sproat. Until recently, the Department had authority to conduct independent verifications, and did so. Although the current appropriation language (FY 2008) contains the anti-litigation, anti-lobbying, and self certification language noted in the question, it also prohibits the Department from "monitoring, auditing, or other oversight rights or responsibilities over amounts provided to affected units of local government in this or any previous year."

Chairman Visclosky and Ranking Member Hobson. Can you testify to this Committee, on the record, that not a single dollar of funds appropriated in our Energy and Water bills has been used for such prohibited activities?

Mr. Sproat. No. The Department does not have independent verification that funds appropriated for the State of Nevada and the affected units of local government have not been spent on any of the prohibited activities

Chairman Visclosky and Ranking Member Hobson. I understand that there was a 1975 resolution from the State Assembly INVITING the Federal government to locate the repository in Nevada. Is that correct?

Mr. Sproat. Yes. Nevada Assembly Joint Resolution 15, February 26, 1975, indicated the Department's predecessor agency, the Energy Research and Development Administration, should "choose the Nevada Test Site for the disposal of nuclear wastes." (Attachment A).

Chairman Visclosky and Ranking Member Hobson. How many federal dollars has the repository program spent to date in the State of Nevada?

Mr. Sproat. The Yucca Mountain Program has spent over \$7 billion in the State of Nevada since 1983.

STATUS OF DOE'S LEGISLATIVE PROPOSAL

Chairman Visclosky and Ranking Member Hobson. Last year, the Department submitted a legislative proposal on nuclear waste.

What is the status of this legislative proposal?

Mr. Sproat. The Administration still has a legislative proposal on Yucca Mountain pending before Congress and continues to support legislation to accelerate the Yucca Mountain Program through funding reform, land withdrawal, authorization to begin infrastructure upgrades, and licensing streamlining. The Administration has briefed members of Congress on the benefits of passing the legislation.

Chairman Visclosky and Ranking Member Hobson. Did you submit a revised legislative proposal this year, or are you relying on the same version submitted to Congress last year?

Mr. Sproat. The Department is actively seeking Congressional support for the Administration's legislative proposal which was submitted last year.

Chairman Visclosky and Ranking Member Hobson. What is the Department's and the Administration's legislative strategy for getting this proposal enacted this year? Do you see any movement on this proposal in the authorizing committees in either the House or the Senate, especially in an election year?

Mr. Sproat. The Department has held numerous briefings for members of Congress and their staffs to encourage action on the Administration's proposal. I do not know whether the proposal will be before the authorizing committees this year, but I encourage members of Congress to discuss the proposal and provide any alternative legislation that can be enacted. I look forward to a dialogue on legislation for the Yucca Mountain Program.

Chairman Visclosky and Ranking Member Hobson. One open question deals with the ability of the Nuclear Regulatory Commission to license new reactors, and specifically to issue a Waste Confidence Determination for new reactors, is the absence of a Federal repository for spent fuel. This is a critical issue because the currently authorized repository is full to capacity in the year 2010, so that spent fuel from new reactors presently has no permanent disposition path.

Mr. Spurgeon, do you believe that the Nuclear Regulatory Commission will be able to issue a Waste Confidence Determination for new reactors?

Mr. Spurgeon. Yes. In 1999, the Commission reviewed the issue of waste confidence and found that it continued to have confidence that there was reasonable assurance that safe disposal of high-level waste and spent fuel in a geologic repository is technically feasible, that repository capacity will eventually be available, that high-level waste and spent fuel will be safely managed until repository capacity is available, that spent fuel generated in any reactor can be stored safely and without significant environmental impacts for extended periods, and that

spent fuel storage will be available as needed.

Chairman Visclosky and Ranking Member Hobson. Why is the Department still seeking to waive the waste confidence [sic]

Mr. Sproat. Waste confidence is included in the Administration's proposal to codify the decision by the Commission.

FUNDING FOR THE REPOSITORY PROGRAM

Chairman Visclosky and Ranking Member Hobson. The request for FY2009 is significantly less than the funding profile you laid out for the project just last year. At that time, you indicated the repository project would need \$1.2 billion this year to stay on schedule for 2017; now you are requesting only \$495 million, less than half the amount you said you really needed this year. How do you explain that reduction in your FY2009 request?

Mr. Sproat. The FY 2009 request recognizes it is unrealistic to expect Congress to authorize the significant increase in Program funding which would be required to open the repository in the shortest possible time prior to receipt of the construction authorization from the Nuclear Regulatory Commission. This assumption is based on the significant reduction of actual appropriations received compared to the President's requests for FY 2007 and FY 2008.

Chairman Visclosky and Ranking Member Hobson. Mr. Sproat, we understand that you are presently engaged in preparing an updated baseline for the repository project. From our experience with DOE, costs never go down – they always go up.

What is the current baseline cost for the Yucca Mountain repository?

Mr. Sproat. We have started to update the previous baseline schedule to reflect Congressional funding reductions and the lack of funding reform for the Program. The revised cost and schedule baseline will be available later this year to reflect a new assumption that the Program will receive level funding until the Department receives a construction authorization to build the repository from the Nuclear Regulatory Commission. We will also be issuing a revised Life Cycle Cost Estimate for the Program this summer.

Chairman Visclosky and Ranking Member Hobson. Can you give us a rough estimate of how much this cost might increase once this new baseline is completed?

Mr. Sproat. We will be able to provide the updated cost estimate after it is completed this summer.

Chairman Visclosky and Ranking Member Hobson. Mr. Sproat, the NRC has indicated that funding constraints will make it difficult for the NRC to complete the three year review process for your application, as mandated by legislation. I recognize that Congress cut NRC's Yucca mountain activities by \$8.2 million in FY2008. However, OMB – which, I want to remind everyone, is part of the executive branch...just like DOE – cut NRC's FY2009 budget request by \$41 million.

How can you expect Congress to give this program its full support when your Administration isn't doing so?

Mr. Sproat. Neither I nor the Department of Energy have been involved in the Nuclear Regulatory Commission (NRC) deliberations at the Office of Management & Budget so I cannot comment on the potential impact any budget reductions will have on their ability to review the

license application for Yucca Mountain. I do believe, however, based on my interactions with senior NRC officials that they are fully cognizant of the importance of the Yucca Mountain Project and that they will work diligently to complete the application review within the timeframe provided by law.

Chairman Visclosky and Ranking Member Hobson. Do you believe the private sector, or a new non-governmental corporation, could build and operate this repository for less than DOE? Why?

Mr. Sproat. While the establishment of a private entity or a government chartered semiprivate entity managing the development and operation of the repository could address such issues as leadership and management stability, long-term contracting, and the ability to attract qualified personnel, it is not possible to determine definitively whether the costs would be less. Under any scenario, there are numerous factors, including whether or not Congress enacts funding reform, the time and costs associated with licensing the repository, litigation related delays and other factors, that would affect the ultimate cost of building and operating the repository. Further, in determining overall costs, it is necessary to consider the legacy liability resulting from the Government's partial breach of its spent fuel disposal contracts with nuclear utilities, which will need to be addressed appropriately and adequately under any scenario.

NEW GOVERNMENT ENTITY FOR YUCCA MOUNTAIN AND GNEP

Chairman Visclosky and Ranking Member Hobson. Mr. Sproat, according to the media, you've apparently been out "socializing the concept" of using a government corporation to run Yucca Mountain and the Global Nuclear Energy Partnership. I find it interesting that you have yet to approach this subcommittee regarding this idea. It's not even in your opening statement.

When were you planning on discussing this idea with us?

Mr. Sproat. We would be glad to discuss with the subcommittee concepts that are being discussed within the Department once they have been more fully developed. Further, the Department has previously studied the concept of a government corporation for the implementation of the nuclear waste program under the Nuclear Waste Policy Act in a 2001 report, "Alternative Means of Financing and Managing the Civilian Radioactive Waste Management Program" (DOE/RW-0546) and provided that report to Congress.

Chairman Visclosky and Ranking Member Hobson. What advantages would such a corporation have over regular order?

Mr. Sproat. The establishment of a private entity or a government chartered semiprivate entity could address such issues as leadership and management stability, the ability to engage in long-term contracting, and the ability to attract qualified personnel.

Chairman Visclosky and Ranking Member Hobson. In some ways, it's fitting that GNEP would be included in this proposal. It's changed so many times, why not one more? However some of what GNEP is supposedly doing involves working internationally on nuclear security issues

Why should a government corporation be involved in issues of National Security? Isn't this an inherently governmental function that you wouldn't want to spin off?

Mr. Spurgeon. I agree that a government corporation should not be involved with inherently governmental functions such as policy issues relating to National Security. We would be glad to discuss the specifics of the GNEP proposal with member of the committee to explore further the details of implementing this important part of the proposal.

Chairman Visclosky and Ranking Member Hobson. If this component of GNEP would not be run by the corporation, what other GNEP components wouldn't be?

Mr. Spurgeon. The Federal corporation would not be responsible for making governmental policy. Rather, the corporation would focus its activities on providing the services necessary to manage the fuel cycle efficiently by recycling spent fuel and disposing of the material that cannot be reused.

ADVANTAGES OF THE NEW ENTITY OVER REGULAR ORDER

Chairman Visclosky and Ranking Member Hobson. You've indicated elsewhere that this corporation would give the program greater management stability and would eliminate bureaucratic hurdles that impede its progress.

Who would this corporation report to, then? Who would have oversight over such a sensitive operation?

Mr. Spurgeon. The Administration has not yet developed a proposal with respect to such matters.

Chairman Visclosky and Ranking Member Hobson. Why should we run Yucca differently than the Waste Isolation Pilot Project? Do you think that WIPP is hindered by management instability and bureaucratic hurdles?

Mr. Sproat. We believe the Waste Isolation Pilot Project is being managed quite well. There are differences between WIPP and the Yucca Mountain Project that might justify different management approaches. The Department, however, has not endorsed any management change to the Yucca Mountain Project at this time, and will not do so in the future unless it was evident that a management change would be beneficial.

Chairman Visclosky and Ranking Member Hobson. How would the management structure of this corporation be determined? Are you really proposing to completely cut out federal government involvement?

Mr. Spurgeon. The Administration has not developed any legislative proposal on these matters.

FINANCING OF THE NEW ENTITY

Chairman Visclosky and Ranking Member Hobson. According to the information you had provided to other committees, this government corporation would receive a fee from utilities, and then pay a separation fee to a recycler while paying to build and operate waste repositories.

- Is this information correct?
- How much would the waste fee be, and how would it relate to the waste fee currently paid into the Nuclear Waste Fund?
- Who would pay to set up the corporation? Would you look to the NWF, appropriated funds, or a different source?

Mr. Spurgeon: The Department has not officially formulated a position on a governmental corporation, and continues to evaluate this matter and review input from industry. In that regard, the four industry consortia working under the Cooperative Agreements awarded in September 2007 for GNEP Deployment Studies have provided preliminary input on a variety of issues including the idea of a new government entity (NGE) (also called a Federal Corporation, Used Fuel Management Entity or Nuclear Fuel Authority) to manage recycling activities and waste repository construction and operation.

Based on the preliminary reports received, the consortia assumed the NGE would have access to funding derived from the Nuclear Waste Fund (NWF). However, the selection of this approach by industry does not necessarily mean that this would be the ideal approach for public and taxpayer benefit. These and other issues will continue to be reviewed and considered by the Department.

Chairman Visclosky and Ranking Member Hobson. Your presentation stated that the reprocessing technology that you were envisioning would not separate pure plutonium.

- Has the technology that you were envisioning been developed yet?
- If so, which technology do you have in mind?
- If not, is it close to development? Who is paying for development?
- Would the corporation be charged with doing R&D on advanced separation technologies? How would that be paid for, keeping in mind that the NWF can not be used to pay for R&D on advanced technologies?

Mr. Spurgeon: Some technologies that extract uranium and plutonium together have been successfully demonstrated at laboratory scale and use process equipment that is evolved from that commercially available today. It is anticipated that additional development work would be needed for certain processes. The Department has not officially endorsed any specific technology and continues to evaluate input from industry and the national laboratories on various technology pathways.

Technologies that use advanced separation processes (e.g. UREX, electrochemical separations) are not ready and would require additional R&D and demonstration prior to commercial deployment.

In most of the cases described by industry, the NGE would be responsible for implementing recycling and the Department would continue with R&D efforts on advanced technologies.

Chairman Visclosky and Ranking Member Hobson. The Nuclear Waste Fund currently has roughly \$21 billion in it, and \$750 million more is added every year as customers contribute their fee.

- Would you propose that your new corporation take control of this funding?
- How would you see the role of Congress in overseeing the expenditures of these funds?

Mr. Spurgeon: The Department has not officially formulated a position on a governmental corporation, and continues to evaluate this matter and review input from industry. Four industry consortia have provided preliminary input on a variety of issues including the idea of a new Federal Corporation, Used Fuel Management Entity or Nuclear Fuel Authority to integrate and manage the back end of the fuel cycle.

LIABILITY AND THE JUDGMENT FUND

Chairman Visclosky and Ranking Member Hobson. What is your current estimate of the liability facing the Department for its failure to accept commercial spent fuel for disposal beginning in 1998, assuming your best case that the repository opens in 2017?

Mr. Sproat. The Department has estimated that the Government's liability would be approximately \$7 billion if Yucca Mountain were to open in 2017.

Chairman Visclosky and Ranking Member Hobson. The Office of Environmental Management is requesting funding in FY2009 to reimburse the Judgment Fund for claims against the government resulting from EM actions or inactions. Why isn't your office making a similar request for appropriations to reimburse the Judgment Fund?

Mr. Sproat. Judgments or settlements in the spent nuclear fuel litigation are paid from the Judgment Fund. Under current law, the Department is not required to reimburse the Judgment Fund for those payments.

Chairman Visclosky and Ranking Member Hobson. Does the industry support DOE requesting appropriations to repay the Judgment Fund? If not, do you understand why not? If this multi-billion dollar liability did not remain hidden in the Federal budget, but we openly budgeted each fiscal year and paid for out of discretionary appropriations, it might focus Congressional attention on the need to move forward with a permanent solution to spent nuclear fuel.

Mr. Sproat. The Department is not aware of any industry position as to whether or not DOE should request appropriations to repay the Judgment Fund for judgments or settlements resulting from the litigation arising out of the delay in beginning to dispose of utility spent fuel.

INTERIM STORAGE

Chairman Visclosky and Ranking Member Hobson. Congress directed the Department in the FY2008 Omnibus to prepare a plan for interim storage of spent nuclear fuel, starting with the fuel from reactors that have already been decommissioned. What is the status of this plan?

Mr. Sproat. The plan is under development and is expected to be provided to Congress this summer.

Chairman Visclosky and Ranking Member Hobson. When this plan is finally delivered to Congress, will it provide a detailed plan designed to actually move spent fuel in the near future, or will it only outline the steps necessary to formulate a detailed execution plan?

Mr. Sproat. We are in the process of preparing the plan and it is currently undergoing review within the Department.

Chairman Visclosky and Ranking Member Hobson. Do you believe the Department presently lacks the authority to provide any interim storage? If so, please provide for the hearing record a copy of the legal memorandum from your Office of General Counsel on this question.

Mr. Sproat. This issue will be addressed in the report on interim storage to be issued this summer.

Chairman Visclosky and Ranking Member Hobson. I understand that you have estimated it would take seven or more years to develop and license an interim storage site. The Department is very protective of its self-regulating authority and in other areas actively resists an intrusion by the Nuclear Regulatory Commission in its business. Why aren't you looking at interim storage on DOE sites, so that you could avoid that time for the NRC to license interim storage?

Mr. Sproat. Section 202 of the Energy Reorganization Act provides for NRC licensing of DOE facilities whose primary purpose is the storage of spent fuel from licensed reactors. Thus, without a statutory change, DOE would need an NRC license for any interim storage facility for spent fuel from commercial reactors, even if the storage were located on a DOE site.

WORK AT SANDIA NATIONAL LABORATORY

Chairman Visclosky and Ranking Member Hobson. Mr. Sproat, I understand that the Department has designated Sandia Laboratory as the lead lab on the Yucca Mountain project.

In light of Section 3220 of the NNSA Act, which says that employees and contractors of the NNSA are not subject to the authority, direction, and control of anyone in the Department of Energy other than the Secretary himself and the NNSA Administrator and his designees, how are you able to maintain effective operational control over Sandia?

Mr. Sproat. The contract between the National Nuclear Security Administration's ("NNSA") Sandia Site Office and Sandia Corporation contains a Statement of Work paragraph 3.2.4 entitled, Yucca Mountain. This clause authorizes Sandia Corporation to serve as the Lead Laboratory in support of the Office of Civilian Radioactive Waste Management ("OCRWM") and the Yucca Mountain Project.

The contract also contains clause H.22, Performance of Work at DOE Facilities and Sites Other Than Sandia National Laboratory. This clause requires Sandia to comply with directives "that are applicable to the Sandia Corporation work being performed and that are applicable to the associated hazards at the particular facility or site."

OCRWM maintains "effective operational control" over the Sandia National Laboratory's work on the Yucca Mountain Project through the appointment on July 7, 2006 of OCRWM's Chief Scientist, as the Contracting Officer's Representative (COR). (Attachment B) The Chief Scientist was appointed to this position by the Manager of the NNSA Sandia Site Office and Contracting Officer of the NNSA contract with Sandia Corporation, the Management and Operating Contractor of the Sandia National Laboratories. The appointment formally recognizes the Chief Scientist's role in a programmatic oversight capacity and also delineates his responsibilities to work with and through the Sandia Site Office Contracting Officer to provide contractor direction. Work is assigned to Sandia by the Contracting Officer through established Site Office business processes similar to other work Sandia performs for non-NNSA entities.)

The COR appointment, combined with clause H.22, and paragraph 3.2.4 in the Statement of Work of the NNSA's contract with the Sandia Corporation provide the authority for OCRWM to effectively manage Sandia National Laboratories' Yucca Mountain-related work and yet fully comply with the NNSA Act.

Chairman Visclosky and Ranking Member Hobson. Please provide for the record a copy of your internal decision memorandum on this designation of Sandia as your lead laboratory.

Mr. Sproat. As requested, a copy of the internal memorandum regarding designation of the Sandia National Laboratories as the lead laboratory for science-related work for the Yucca Mountain Project is attached. (Attachment C)

Chairman Visclosky and Ranking Member Hobson. Please provide for the record a copy of the legal memorandum from your Office of General Counsel addressing the legal questions

involved in designating as your lead laboratory an NNSA entity that is, by law, not subject to your authority, direction, and control.

Mr. Sproat. No legal memorandum from the Office of the General Counsel exists addressing those legal questions.

Chairman Visclosky and Ranking Member Hobson. What overhead rate is Sandia charging your program? What percentage of all Nuclear Waste Disposal funding that you send to Sandia is "taxed" by the lab to conduct, at their own discretion, Laboratory Directed Research and Development?

Mr. Sproat. As of March 31, 2008, the overhead rate the Sandia National Laboratories is charging the Office of Civilian Radioactive Waste Management is 34 percent. Of this rate, 8 percent is for laboratory directed research and development.

NUCLEAR ENERGY**GNEP STRATEGY**

Chairman Visclosky and Ranking Member Hobson. The Department has changed strategies on GNEP several times. Please explain the latest strategy -what separation process will be used, what kind of reactor will burn the recycled spent fuel, who will pay for commercial-scale facilities, etc.?

Mr. Spurgeon. The goals of GNEP have not changed. GNEP seeks to expand the global use of clean, safe, nuclear power in a way that reduces the risk of proliferation and addresses the issue of nuclear waste disposal. The GNEP implementation strategy to achieve these goals has evolved over time as we gather additional data and incorporate input from stakeholders, industry, and end-users. Part of the current domestic strategy is to pursue and evaluate fuel cycle options that meet GNEP goals. Much of the domestic GNEP effort has been focused on developing a Programmatic Environmental Impact Statement that will inform a Record of Decision on whether or not to close the fuel cycle. Our international strategy is to build partnerships so that the GNEP goals may be realized globally.

The Department continues to evaluate various technologies for separations facilities, fuel types, and burner reactors. In order to engage industry experts in the conceptual design of the initial nuclear fuel recycling center and advanced recycling reactor, the Department issued a Funding Opportunity Announcement (FOA) last year to acquire conceptual design studies, technology roadmaps, and business plans. The industry teams have provided important perspective and insight into how the fuel cycle could be closed. Both aqueous and electro-chemical separations technologies are being considered for a used fuel recycling facility.

Each of the four industry consortia teams currently supporting the GNEP Deployment Studies has expressed significant interest in the construction and operation of GNEP facilities. Industry has indicated that due to the high degree of uncertainty and risk involved with designing, licensing and operating an advanced fast reactor in the United States, it believes that the first fast reactor would need to be government funded, but other commercial-scale facilities would not be government funded.

NEW GNEP FACILITIES REQUEST IN THE FY2009 BUDGET

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, the FY 2009 budget requests \$33.4 million for transmutation research and development which would fund "site evaluation and infrastructure design to support a nuclear fuel recycling center and an advanced recycling reactor".

What is the timing of these facilities, and what would they cost?

Mr. Spurgeon. The request for the nuclear fuel recycling center and advanced recycling reactor facilities are included in the Consolidated Fuel Treatment Center and Advanced Burner Reactor budget lines, respectively. The specific reference cited in the question refers to additional evaluations of potentially larger-scale used fuel recycling concepts, including initial site and infrastructure evaluations of potential sites interested in hosting GNEP fuel cycle facilities.

The cost of the separations facility would vary significantly depending on the facility size and technology selected. According to initial industry estimates – which have not been validated by the Department - the cost of an initial 800 MT (metric tons)/year commercial facility could be about \$20 billion. It is our expectation that a substantial portion of the cost of a separations facility would be borne by the marketplace, not the taxpayer.

As with the cost of the separations facility, the cost of the initial fast reactor depends on a number of factors, including the size of the facility. According to initial industry projections – which have not been validated by the Department- fast reactor facility designs could range in size from 300 MWe (mega-watt electric) to 500 MWe with costs ranging from \$2 billion to \$4.5 billion.

Initial input from industry and international partners indicate that, under certain conditions, deployment of a prototype fast reactor could occur between 2020 and 2025. We envision that construction of GNEP's nuclear fuel recycling center (fuel separations and fuel fabrication facility) could begin in the 2015-2020 timeframe and operation could begin sometime in 2020-2025.

The siting and construction of a nuclear fuel recycling center and an advanced recycling reactor would be subject to the requirements of the National Environmental Policy Act and licensed by the Nuclear Regulatory Commission.

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, the FY 2009 budget requests \$53 million for advanced fuels research, development and testing, which includes funding "to continue to develop cost, scope and schedule information for a transient test capability which will enable the testing of advanced fuels". Is this a facility? What is the timing and cost of this activity?

The budget also cites the needs for improvements in existing DOE laboratory facilities. What is the financial investment needed here?

Mr. Spurgeon. The GNEP advanced fuels development program has as its mission qualification of transuranic-bearing fast reactor fuels for an advanced recycling reactor. Licensing of any new advanced fuel would require transient testing at some stage to investigate design and beyond-design basis reactor transients. This transient fuel testing would most likely be done in a single facility capable of simulating reactor flow and temperature conditions of the recycling reactor. Having such a capability is important for the next generation of fast recycling reactors. The Department has been approached by both French and Japanese researchers to gain access to the now-shutdown Transient Reactor Test (TREAT) facility at Idaho National Laboratory, the only facility in the world capable of conducting transient tests on multi-pin fuel assemblies. There are concerns, however, about the cost and schedule required to return this facility to an operating condition. Therefore, current efforts are being devoted to evaluate the options available to meet the program's transient testing needs. In the near term it might be possible to make use of an existing facility at Sandia National Laboratories, called the Annular Core Research Reactor (ACRR), to support early, smaller-scale tests.

Regarding facility improvements, the Department is seeking to upgrade the facilities at Idaho National Laboratory and Los Alamos National Laboratory to provide remote transuranic fuel fabrication demonstration capabilities.

Chairman Visclosky and Ranking Member Hobson. Mr. Secretary, the FY 2009 budget requests \$10.3 million for a "first-of-a-kind, world-class nuclear fuel cycle research, development and demonstration facility". The budget also says the design could be up to 60 percent complete at the end of the fiscal year (FY 2009).

Is this different from the nuclear fuel recycling center mentioned earlier?

Mr. Spurgeon. Yes, it is different from the nuclear fuel recycling center. The proposed nuclear fuel cycle research, development and demonstration facility (Advanced Fuel Cycle Facility) would be a DOE-operated government facility supporting lab-scale through engineering-scale technology improvements over the next 50 years. On the other hand, it is contemplated that a nuclear fuel recycling center could be an engineering- to commercial-scale demonstration facility led by industry using evolutionary technology available today.

Chairman Visclosky and Ranking Member Hobson. What is the timing of this facility? Sooner than the nuclear fuel recycling center and advanced reactor? You're doing site evaluations on those already -- are you doing site evaluations for the nuclear fuel cycle research facility?

Mr. Spurgeon. The timing of the AFCF was initially envisioned in the 2020-2025 period but will depend upon a variety of factors, including decisions relating to decisions that are made relating to GNEP following completion of the NEPA process. The advanced fuel separation, transmutation fuel fabrication, and waste form development capabilities of the AFCF would be needed in parallel with the engineering- to commercial-scale demonstration nuclear fuel recycling center to develop next-generation recycling technologies to improve efficiency and effectiveness of fuel cycle management in the U.S. for the next five decades.

Chairman Visclosky and Ranking Member Hobson. What is the cost of this facility?

Mr. Spurgeon. The cost range for this project is being revised based on conceptual design performed to date and engineering trade-studies.

Chairman Visclosky and Ranking Member Hobson. It is my understanding that the Department's environmental impact statement (EIS) for greater-than-class C waste includes waste volumes generated from the nuclear fuel cycle research, development, and demonstration facility - is this accurate? Seems a little optimistic considering the stage of development you currently are in. Please explain why these waste streams are included. How realistic are those waste stream volumes?

Mr. Spurgeon. In connection with the Global Nuclear Energy Partnership program, the Department has been considering potential construction and operation of an AFCF facility. The waste volume estimates developed to date by DOE for the contemplated GNEP research facility are based on conceptual engineering design and past operating experience. We believe these estimates are reliable for the purposes of analysis in the greater-than-class C (GTCC) EIS.

Chairman Visclosky and Ranking Member Hobson. How will the Department comply with the requirements of DOE Order 413.3A regarding all of these proposed GNEP facilities?

Mr. Spurgeon. The Department will fully comply with the requirements of DOE Order 413.3A in accordance with DOE practices wherever applicable.

Chairman Visclosky and Ranking Member Hobson. DOE's Mission Need Statement estimated the total project cost for all three facilities (a reprocessing plant, a fast reactor, a R&D facility) under an engineering-scale demonstration could range from \$4.2 billion to \$9.7 billion.

Since the history of DOE cost estimating is so incredibly inaccurate, how would you suggest Congress evaluate projects that have very little or no baseline estimates at all such as GNEP?

Mr. Spurgeon. A key reason past DOE cost estimates were found inaccurate is due to the selection of an alternative before performing a thorough analysis of all reasonable alternatives. The thorough analysis of alternatives should include evaluations of functional and operational requirements, technology maturity, project risks, and other consideration. The somewhat large difference between the high and low cost estimate range indicates the Department's initial assessment of the broad range of alternatives involved in the engineering-scale projects approved under the GNEP Mission Need Statement and is a direct result of improvements made by the Department in the area of project management. The key to accurate cost estimation is to sufficiently define project requirements and to do sufficient engineering and design to accurately scope the project prior to procurement. DOE's order 413.3 is helping to impose greater discipline in the procurement and execution of large projects, and we anticipate that our cost estimating will continue to improve as a result.

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, what can you tell me today as far as the Department's ability to manage, to accurately predict cost, and to achieve project schedules? What can you tell me today that demonstrates that the Department is operating more effectively than it was two years ago?

Mr. Spurgeon. Substantial contract and project management enhancements and reforms have been implemented within DOE, resulting in improved project execution and performance. During FY05-07, 70 percent of DOE projects were completed in accordance with our performance goals of completing projects within the original performance baseline with no more than 10 percent cost growth. Older GAO reports have suggested our past performance was closer to 35 percent.

Chairman Visclosky and Ranking Member Hobson. Do you have any evidence to offer that DOE is providing more accurate estimates of future construction and operation costs than in the past?

Mr. Spurgeon. While not all of these recently completed projects were the most complex or presented the highest risk, they demonstrate dramatic improvement from early years, while acknowledging further challenges remain. To this end, the Department has recently completed a Root Cause Analysis report focused on our systemic contract and project management deficiencies. The report identifies the key elements necessary to make the meaningful changes required to consistently deliver projects within cost and schedule performance parameters: disciplined upfront planning, realistic estimates of cost and schedule, better risk management, and straight forward communication between the project director and senior management.

The Department is aggressively developing a Corrective Action Plan that will lay out

effective solutions and strategies for addressing and correcting the root causes identified in the aforementioned Root Cause Analysis report. The focus will be on properly addressing the critical few issues having the biggest impact: improving front-end planning including requirements definition and risk management, implementing a human capital strategy to ensure sufficient numbers and skills of federal project and contract management staff, and integrating project management systems to ensure better federal oversight of contractors. In implementing the Corrective Action Plan DOE will prioritize the actions taken based on expectation and analysis of what will have the biggest positive impact on improving delivery of projects on cost and schedule.

SECRETARIAL DECISION ON GNEP: STATUS

Chairman Visclosky and Ranking Member Hobson. According to the GNEP strategic plan, DOE plans to prepare a decision package by June 2008 so that the Secretary of Energy can make a decision whether to proceed with building a nuclear fuel recycling center and a prototype advanced recycling reactor, assuming (among other things) that a credible technology pathway has been developed and a credible business plan exists.

What specific criteria will you use for your June 2008 decision given the many technical, economic, and nonproliferation uncertainties surrounding the initiative?

Mr. Spurgeon. The timing and decision by the Secretary of Energy on the GNEP path forward will be informed by and would be made in conjunction with the Record of Decision (ROD) related to the final GNEP Programmatic Environmental Impact Statement (PEIS). In addition to the potential environmental impacts evaluated in the PEIS, the decision will also be based upon consideration of non-environmental issues, including strategic planning, technology readiness levels, R&D needs, and nonproliferation impacts. Industry inputs that will include business cases, conceptual design studies, and technology development roadmaps will also be considered. The information from supporting documents will be considered and used by the Secretary to inform the decision on whether and how to proceed with GNEP. DOE is evaluating its schedule and no longer expects to make a decision in June 2008.

GNEP-WHO PAYS FOR NEW FACILITIES?

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, do you see industry paying for any near-term construction of a fast reactor and a reprocessing facility? If yes, then:

- By your estimate, and from what you have learned from industry, how much would you expect industry to contribute to the cost of building the first fast reactor? For the first reprocessing plant?
- DOE's Notification for the Programmatic Environmental Impact Statement included a range of capacities and throughputs listed for the advanced fast reactor-250 MW (mega-watt) /thermal up to 2,000 MW(mega-watt)/thermal-and for the reprocessing plant- 100 metric tons of heavy metal annually up to 3,000 metric tons of heavy metal annually. What are the estimated costs to build these facilities, at the high and low range?

Mr. Spurgeon. Industry has indicated that due to the high degree of uncertainty and risk involved with designing, licensing and operating an advanced fast reactor in the United States, it believes that the first fast reactor would have to be primarily government funded, which industry estimates could cost between \$2 billion to \$4.5 billion for facility designs ranging in size from 300 MWe (mega-watt electric) to 500 MWe. These estimates have not been validated by the Department and do not reflect the Department's position. The industry information is still under review. However, this size-range for the first fast reactor is based on industry input and DOE regards it as an optimum size for an initial prototype.

The U.S. could consider leveraging its international efforts so that building the fast reactor facility may become an international partnership effort however more study is needed before this option can be entertained. Currently, under a trilateral memorandum of understanding between the DOE and the atomic energy agencies of Japan and France we are exploring the possibility of cooperating with our partners so that the expertise and resources of the three agencies might be efficiently leveraged to develop sodium fast reactor prototypes.

Regarding the first reprocessing plant, The industry teams provided early estimates that ranged from \$400 million to \$20 billion for an initial Nuclear Fuel Recycling Center with capacities that ranged from 50 metric tons initial heavy metal per year (MTHM/year) to 2,000 MTHM/year. These estimates have not been validated by the Department and do not reflect the Department's position. The industry information is still under review.

GNEP AND U.S. LEADERSHIP INTERNATIONALLY

Chairman Visclosky and Ranking Member Hobson. DOE has often said that it needs to proceed now with design and construction of a reprocessing facility, even if it uses separation technology less advanced than the GNEP UREX process, because the U.S. needs to be "part of the game" and "have a team on the field." In essence, DOE implies that the U.S. needs a reprocessing facility to play a leadership role in influencing future choices regarding nuclear energy technology.

How would building a reprocessing facility that uses existing technology or minor variations on existing technology help the U.S. influence other countries' technology choices?

Mr. Spurgeon. The key GNEP non-proliferation goal is to prevent the spread of enrichment and reprocessing technologies. "Getting in the game" means establishing used fuel management in the U.S. (recycling and disposal) so that other countries that want to pursue a nuclear power capability can do so without the need to develop indigenous enrichment and reprocessing. After the U.S. is "in the game" either the U.S. or certain GNEP partners could offer reliable nuclear fuel services to other countries with credibility.

An additional non-proliferation objective under GNEP is to utilize technologies that recycle used nuclear fuel but do not add to the supply of separated civil plutonium, something which is currently happening elsewhere in the world. The GNEP Statement of Principles articulates agreement by the partners that we will migrate from processes that separate out pure plutonium. This evolution from existing technologies toward more advanced technologies, even if it is just an incremental step, allows us to provide leadership and show other nations that it is possible to use a process that does not separate out pure plutonium.

Building a reprocessing facility will help facilitate the nuclear renaissance and promote energy efficiency by recovering a portion of the energy value that is currently not being used to produce electricity.

GNEP-RUSH TO FACILITY CONSTRUCTION

Chairman Visclosky and Ranking Member Hobson. DOE has recently begun working with industry partners on conceptual design studies for a reprocessing facility and a fast reactor while DOE'S national labs continue to work on the advanced technology needed to meet GNEP objectives--most of this advanced technology has thus far has only been demonstrated at the laboratory scale.

In light of the time and expense needed to demonstrate the advanced technologies that are intended to maximize GNEP goals, what is the rationale of DOE'S intent to proceed with an accelerated schedule for design and construction of a reprocessing facility and fast reactor using less advanced technologies that would only partially meet GNEP objectives?

Mr. Spurgeon. Industry has indicated that due to the high degree of uncertainty and risk involved with designing, licensing and operating an advanced fast reactor in the United States, it believes that the first fast reactor would need to be government funded. . Innovations need to be developed and demonstrated in order to achieve confidence that fast reactors are competitive with LWRs on all fronts. In order to consume the transuranics from the current U.S. fleet of 104 reactors in fast reactors, DOE estimates it would take 30 or more fast reactors.

Most agree that closing the fuel cycle is the best approach to developing a comprehensive and economical waste management strategy. Transitioning from a once-through fuel cycle to a closed fuel cycle in the U.S. will require multiple steps and parallel efforts.

GNEP-NOT USING ADVANCED TECHNOLOGIES

Chairman Visclosky and Ranking Member Hobson. Unlike other countries that have continued reprocessing spent fuel, the U.S. has the opportunity to begin with a relatively clean slate, using advanced technologies. Yet DOE'S' funding opportunity announcement states that DOE is willing to consider "incremental approaches that meet the GNEP vision in a step-wise fashion." That seems to be a roundabout way of saying that the Department will consider building facilities-very expensive facilities- which it knows from the outset won't meet GNEP's objectives.

Why would the United States take this approach and risk locking ourselves in to technologies that won't meet our needs?

Mr. Spurgeon. Innovations need to be developed and demonstrated in order to achieve confidence that fast reactors are competitive with LWRs on all fronts. In order to consume the transuranics from the current U.S. fleet of 104 reactors in fast reactors, it will take 30 or more fast reactors.

Most agree that closing the fuel cycle is the best approach to developing a comprehensive and economical waste management strategy. Transitioning from a once-through fuel cycle to a closed fuel cycle in the U.S. require multiple steps and parallel efforts.

GNEP AND MOX FUEL

Chairman Visclosky and Ranking Member Hobson. Is DOE is considering production of mixed-oxide (MOX) fuel for burning in existing reactors under GNEP?

Mr. Spurgeon: Yes, the Department is evaluating a variety of alternatives to close the nuclear fuel cycle including near term LWR recycle and fabrication of uranium-plutonium mixed oxide (MOX) fuel. The preliminary industry responses under cooperative agreements that were competitively awarded pursuant to the 2007 Funding Opportunity Announcement (FOA) have provided some information on the reprocessing, fabrication and utilization of MOX fuel while continuing to progress toward full recycle and utilization of Advanced Recycling Reactors.

Any such fabrication of MOX fuel would be in addition to and would not affect the fabrication of MOX fuel from at least 34 metric tons of weapon-grade plutonium at the MOX Fuel Fabrication Facility, which DOE currently is constructing at the Savannah River Site to allow fulfillment of US commitments under the "Agreement Between the Government of the United States of America and the Government of the Russian Federation Concerning the Management and Disposition of Plutonium Designated As No Longer Required for Defense Purposes and Related Cooperation."

Chairman Visclosky and Ranking Member Hobson. Will MOX recycling increase inventories of americium and curium-two of the elements that the Department has said should be kept out of a geologic repository, if possible, in order to extend its capacity?

Mr. Spurgeon. MOX recycling in a thermal reactor would increase the concentration of americium and curium in used fuel relative to non-recycled used fuel, while reducing the plutonium content. However, MOX can also be recycled in fast burner reactors, resulting in the reduction of americium and curium content relative to both the incoming fast reactor fuel and the original used fuel. Thus, those operations in sequence can reduce the total quantity of transuranics in used fuel.

Chairman Visclosky and Ranking Member Hobson. Please explain the rationale for considering a MOX program as part of GNEP.

Mr. Spurgeon. Implementing recycling in LWRs has the potential to enable some of the benefits envisioned under GNEP to be realized sooner, such as: recovery and reuse of nuclear fuel resources better waste management in which radiotoxicity of used fuel is reduced with the removal and reuse of uranium and plutonium, and revitalization of U.S. nuclear infrastructure.

GNEP: TIMING OF SAFEGUARDS FOR REPROCESSING FACILITY

Chairman Visclosky and Ranking Member Hobson. The U.S. stopped reprocessing in the late 1970s primarily due to proliferation concerns. GNEP proposes to develop advanced safeguards to address the basic GNEP goal of preventing diversion or theft of plutonium. The Advanced Fuel Cycle Facility, which is to serve in part as the test-bed for developing advanced safeguards, is scheduled for completion in the 2020 timeframe, but this is the same time frame envisioned for completing construction of the first reprocessing facility.

What is the rationale for pursuing design and construction of a reprocessing facility prior to developing and demonstrating advanced safeguards? Shouldn't safeguards be part of the design of a facility?

Mr. Spurgeon. A new reprocessing facility would be designed and built with the latest state-of-the-art safeguards technology, and would be able to operate even more safely and securely with modern technologies. DOE believes research and development of such technologies should not be frozen in time but continually improved. The Advanced Fuel Cycle Facility is necessary to continue to advance the state-of-the-art. DOE believes future safeguards technology enhancements could be incorporated in the new recycling facility.

GNEP: WILL THE U.S.OFFER REPROCESSING SERVICES INTERNATIONALLY?

Chairman Visclosky and Ranking Member Hobson. In support of developing GNEP facilities, your strategic plan states that if the U.S. is going to "participate in assuring access to nuclear fuel, and in the longer term, spent fuel services to [other countries], the U.S. must have the capability to provide the needed fuel cycle services'- including "cradle to grave" fuel service or leasing arrangements. Yet the United States could accomplish the first goal--helping assure access to nuclear fuel-without building any GNEP facilities, for example by participating in an international fuel bank. As far as the second goal, we have to consider the question of plausibility.

How likely is it that the American people will agree to reprocess spent fuel from other nations and accept all the attendant risks associated with transportation of that fuel and operation of the plant-and what would be done with the waste?

Mr. Spurgeon. Reprocessing of spent fuel is a key aspect of our efforts to address waste management concerns and reduce the risk of nuclear proliferation. As such, we believe that the American public would accept the reprocessing of spent fuel from commercial reactors in other nations if it minimizes proliferation and national security concerns and also makes sense from the business standpoint. Recycling has been embraced by strong expressions of interest that have been received by the Department of Energy from 11 sites with regard to hosting an advance recycling facility for U.S. spent fuel. All shipments of nuclear materials in the U.S. must comply with all applicable domestic and international transportation requirements, including the packaging, labeling, and marking requirements of the International Atomic Energy Agency, and the requirements of the U.S. Department of Transportation. In the past, the U.S., without compromise to public safety and health, has accepted spent fuel of U.S. origin for final disposition from certain foreign research reactors. Currently, France and the United Kingdom reprocess spent fuel from commercial nuclear power plants in other countries under strict security measures and send the remaining waste back to the source countries under compliance with international and national regulations.

A Working Group on Reliable Nuclear Fuel Services has been established under GNEP with international experts to assess current law, regulations, policies and practices worldwide. The Working Group effort began in April 2008 and, with diverse technical and policy representatives from advanced nuclear countries, countries operating reactors, supplier countries and countries interested in developing nuclear power, will concentrate on challenges of both the front-end and back-end of the fuel cycle to address concerns to develop and recommend practical measures for moving towards reliable comprehensive nuclear fuel services, including spent fuel management.

GNEP NEW ACTIVITY: GRID-APPROPRIATE REACTORS

Chairman Visclosky and Ranking Member Hobson. There is a new activity this year under the GNEP umbrella - "grid appropriate reactors", with a request of \$20 million. It is described as follows:

"Begin nuclear infrastructure assessment and assistance to developing countries to help them prepare to introduce nuclear energy and ensure it is accomplished to the highest levels of safety and safeguards. Two assessments and at least one assist visit are planned in developing countries using a team of national laboratory employees with experience in the International Nuclear Safety Program".

Mr. Secretary, what are the "developing countries" that are referenced here?

Mr. Spurgeon. The countries referred to as "developing countries" are those countries that are potentially interested in deploying nuclear energy for the first time that have smaller electricity grids and less well-developed infrastructures. Countries that fall in this category, several of which have already become GNEP Partners, include: Bahrain, Ghana, Senegal, Nigeria, Morocco, Chile, Colombia, Paraguay, Peru, Uruguay, United Arab Emirates, Saudi Arabia, Jordan, Estonia and Romania.

Chairman Visclosky and Ranking Member Hobson. What do these "assessments" involve?

Mr. Spurgeon. An assessment would likely consist of a team of experts working with the host country to evaluate the readiness of the country's infrastructure to implement nuclear energy. It is intended that the basis for conducting the assessment be the IAEA document "*Milestones in the Development of a National Infrastructure for Nuclear Power*". With this assessment the country would be able to define policies and/or programs to make the improvements needed to ready it to move toward a decision on the introduction of nuclear energy. The exact mechanism to provide the assessment and related assistance is being defined as part of the GNEP Infrastructure Development Working Group through cooperation among the 21 GNEP Partner nations.

Chairman Visclosky and Ranking Member Hobson. Is a "123 Agreement" or an agreement for nuclear cooperation necessary to share nuclear technology with these developing countries, subject to review by Congress? If not, why not?

Mr. Spurgeon. The need for a Section 123 agreement, or other agreement, depends on the nature of the cooperation contemplated, and is determined on a case-by-case basis. The Office of Nuclear Energy works with the Department's Office of General Counsel and the State Department to ensure 123 Agreements and other types of nuclear cooperation agreements are properly developed, executed and reviewed by Congress consistent with applicable law.

Chairman Visclosky and Ranking Member Hobson. The Office of Nuclear Energy has actively participated in cooperative agreements with countries that already have nuclear power - to share advances in technology. What is the authorization for this program? What is the State Department's involvement?

Mr. Spurgeon. In accordance with Section 57(b) of the Atomic Energy Act, the Secretary of Energy can authorize the transfer of technology and assistance not in the public domain to another country. The Department implements this authority in accordance with the procedures outlined in 10 CFR Part 810, including the provisions of Sections 127 and 128 of the Atomic Energy Act. The Department may authorize transfers pursuant to Part 810 independent of whether an Agreement for Cooperation is in force with the recipient country.

Under the Global Nuclear Energy Partnership agreements on research and development with fuel cycle countries (i.e., countries with fuel cycle technologies) are managed under a "*Joint Action Plan*". This *Action Plan* outlines the research and development activities, and identifies the authority to conduct this work within the already established legal framework such as an international agreement to conduct research and development. All GNEP "*Joint Action Plans*" are coordinated with the Department of State and the National Security Council for concurrence and approval. The Department of State participates in "*Joint Action Plan*" meetings based on its assessment of the need to participate.

FOREIGN TRAVEL FOR GNEP

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, let me start with a general question -are you the person responsible for all of the activities done with the funding that Congress provides to the Office of Nuclear Energy, or at least responsible since you took office in the spring of 2006?

Mr. Spurgeon. I am ultimately responsible for the activities done with the funding provided by Congress for the Office of Nuclear Energy. Specific authorities and funding are delegated to the various Deputy Assistant Secretaries in the Office of Nuclear Energy, who review and approve all activities and funding for their offices.

Chairman Visclosky and Ranking Member Hobson. Based on the Committee's request several weeks ago, the Department provided us with a listing of all of the foreign travel conducted in relation to the GNEP program. The total amount of funding spent is not enormous, but the details of some of these trips are quite troubling. Let me read you one example. In 2006, after you took over as Assistant Secretary, a contractor from Los Alamos traveled to France and Romania. The stated purpose of the trip was to attend a conference in France and present a paper on nuclear fuel materials. Reading further, one discovers that the traveler from the laboratory is actually the same individual who organized this conference in France. That's a pretty good deal when you can get away with it, especially since this was a month-long trip to Europe.

- a. Mr. Spurgeon, were you responsible for approving this trip?
- b. If not you personally, who on your Federal staff approves such travel by contractors working for your office?
- c. Do you see any problem with such a trip, or at least with the perception of such a trip?

Mr. Spurgeon. The review and approval of international travel by Office of Nuclear Energy contractors has been delegated to the respective Deputy Assistant Secretary who is responsible for that area of research and collaboration. In this specific instance I did not review the travel request. While I do not review each travel authorization for employees or contractors in the Office of Nuclear Energy, I am ultimately responsible for any decisions that I have delegated.

Authorization for this travel was warranted. The French government and industry have extensive, recent experience recycling used nuclear fuel and fabricating fuel from the recycled materials. In order to learn from their experience and further our joint research and development, conferences and meetings are held both in France and in the United States. In the particular case cited by the Committee, the contractor traveled to France to further our research collaborations. He then traveled to Romania on his personal time and at his own expense.

FOREIGN TRAVEL FOR GNEP

Chairman Visclosky and Ranking Member Hobson. It is clear that GNEP has been a pretty lucrative source of foreign travel for your contractors. I am also concerned about the foreign travel conducted by your Federal employees, especially those involved in the Department's efforts to enlist more international partners in the GNEP effort. There appears to be a concerted effort to enlist as many countries as possible in the GNEP effort, in the self-serving belief that this will somehow increase domestic political support for your program.

- I have to say that this strategy is doomed to failure. This Committee's primary interest in the AFCI program is to address domestic spent fuel needs. To the extent we want to bring about world peace, this Committee has addressed that by authorizing and funding the International Nuclear Fuel Bank so that emerging countries do not need to develop their own nuclear fuel cycle. Why do you believe that enlisting countries such as Senegal does anything to advance your case here in Congress on GNEP?
- What will countries such as Senegal contribute to the GNEP initiative, or will the flow of technology and assistance be purely one-way?
- Do you understand that every additional international "partner" you enlist in GNEP actually deepens Congressional concerns about the spread of advanced nuclear technologies?

Mr. Spurgeon. The main goal of GNEP is to ensure that the expansion of nuclear power around the world occurs in a safe and secure manner and does not contribute to nuclear proliferation. Many countries are now seriously considering pursuing development of civil nuclear energy to meet their energy needs.

GNEP is not an assistance program for these countries, nor is it an initiative to spread sensitive technologies, particularly not to those who do not already have it. Rather, GNEP is a forum through which they can become better informed and positioned to fully consider the risks, costs and advantages of nuclear power, including the substantial infrastructure, legislative and regulatory frameworks that would be required for the development of a nuclear power program. GNEP, which represents a broad range of knowledge and significant expertise in the nuclear power arena, is very well suited to ensure that countries such as Senegal undertake a responsible and well thought-out decision-making process regarding the most suitable energy choices for their country given the resources they have, whether that choice includes nuclear energy or other alternatives.

The GNEP international partnership has three main areas of cooperation: (1) international engagement to promote the safe and secure development of nuclear energy for peaceful purposes; (2) establishment of a framework for "reliable fuel services" which eliminate the need for countries to establish their own enrichment and reprocessing capability.; and (3) helping other countries considering nuclear power programs to understand and overcome the obstacles to deploying nuclear power and develop the infrastructure needed to manage nuclear power programs responsibly.

The GNEP international partnership is not a forum for cooperation on sensitive nuclear fuel cycle technology. This GNEP cooperation is carried out via bilateral and trilateral cooperation

with other advanced nuclear fuel cycle countries precisely to ensure that such technologies and knowledge are well protected.

In managing the international impacts of the anticipated nuclear renaissance, DOE believes it is important to engage with countries in all stages of nuclear energy development, including those at the very earliest stages of considering nuclear power. To help ensure that these countries' consideration of nuclear power is thoughtful, responsible and fully informed, we are working with other advanced countries to provide the benefits of our shared experience and expertise. This engagement does not mean we believe that each Partner is necessarily ready to develop civil nuclear energy.

Chairman Visclosky and Ranking Member Hobson. What steps do you take personally to control travel by the employees and contractors working on your Nuclear Energy programs?

Mr. Spurgeon. To ensure that foreign travel proposed by Federal and contractor personnel appropriately supports the Office of Nuclear Energy (NE) missions and is consistent with security-related travel restrictions, advance approval by the appropriate Deputy Assistant Secretary within NE is required to attend forums dealing with NE program subject matters. Each trip is scrutinized as to the purpose of the trip and number of travelers.

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, in the FY2008 omnibus Congress authorized \$20.5 billion for nuclear power facilities, including \$2 billion for "front end" facilities. These were in addition to the \$4 billion in non-specified guarantees provided the previous year. In its FY2009 budget request, DOE asks for extensions for nuclear power loan guarantees to 2011, and for all other projects to 2010:

Why are these extensions necessary? What would be the impact if they were not approved?

Mr. Spurgeon. The extensions are necessary because a key condition precedent for such debt financing is that the Nuclear Regulatory Commission has granted the project's combined Construction and Operating License (COL). The first COL to be granted is not expected before early 2011, well after current authority to guarantee loans has expired on September 30, 2009. Therefore, the fiscal year 2009 budget request asks for extension of loan guarantee authority through September 30, 2011. Failure of Congress to approve this extension will preclude sponsors of new power reactors from receiving loan guarantees. While there are many technologies other than nuclear power that can help mitigate carbon dioxide emissions, the United States is not likely to meet reasonable goals without nuclear power as a part of the solution.

LOAN GUARANTEE FOR NUCLEAR ENERGY

In the budget materials, DOE indicates that the earliest practical date for a nuclear solicitation is April 15, 2008.

Chairman Visclosky and Ranking Member Hobson. What is the current status of the solicitation? Are you planning a joint solicitation incorporating both front-end facilities and reactors, or a divided solicitation? Why? What's the advantage of this approach?

Mr. Spurgeon. On April 11, 2008, The Department of Energy submitted an "FY 2008 Implementation Plan" in accordance with the requirement of the Consolidated Appropriations Act of 2008 to submit a loan guarantee implementation plan 45 days prior to the execution of a new loan guarantee solicitation. The Implementation Plan outlines the Department's plans to issue solicitations in two stages this summer for up to \$38.5 billion in loan guarantees for projects that employ advanced technologies that avoid, reduce or sequester emissions of air pollutants and greenhouse gases, including up to \$18.5 billion for nuclear power facilities and up to \$2 billion for nuclear facilities for the "front-end" uranium enrichment of the nuclear fuel cycle. The 45 day review period lapses on May 25, 2008, and the Department expects to issue the solicitations in early June. The nuclear solicitations will be issued individually as each speaks to a distinct sector in the nuclear industry and is subject to entirely different competitive circumstances.

Chairman Visclosky and Ranking Member Hobson. The authorized purpose of the loan -tees is to stimulate innovation. Eligible projects must "employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued." This criterion raises some interesting questions related to support for nuclear reactors.

Several new reactor technologies are nearly ready to be introduced into commercial development. How does DOE plan to determine how many of each type of reactor would be eligible for loan guarantee support? Is it only the first reactor of each type? Or is it the first three? The first five? Where do you propose to draw the line?

Mr. Spurgeon. The Final Rule permits, but does not require, the Department of Energy to grant a loan guarantee for a technology until "it has been installed in and is being used in three or more commercial projects in the United States, in the same general application as in the proposed project, and has been in operation in each such commercial project for a period of at least five years."

DOE intends to move as many different technologies forward as possible, within the constraints of its authority granted by Congress. When loan guarantees are to be offered, it is more likely that subsequent loan guarantees will be given for projects employing technologies different from those previously offered loan guarantees, trying not to duplicate designs until all the current five that are under consideration by power companies have been demonstrated once. At the same time, however, the relative strengths and risks associated with each project will still be weighed, so it is possible that multiple loan guarantees will be offered on the same design before all of the five designs have been demonstrated.

Chairman Visclosky and Ranking Member Hobson. Do you foresee support for reactor components, rather than the full reactor complex?

Mr. Spurgeon. An applicant could apply for a loan guarantee for a component employing some new and improved technology. In order to be eligible to receive a loan guarantee, the component would have to be capable, on its own, of improving reactor performance. A loan guarantee for a contract to backfit such a component on an existing reactor could be granted.

We do not expect to receive any applications for loan guarantees for components rather than full reactor complexes under the nuclear solicitation.

NUCLEAR ENERGY LIFE EXTENSION PROGRAMS

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, I think we're all pleased, and maybe a little relieved, to see how well our current fleet of nuclear plants is holding up. Many plants have been renewed for a 20-year license extension, and there's the possibility that some will remain viable for another 20 years after that. Given the pressures we're facing with greenhouse gas emissions and meeting electricity demand here in the United States, that's great news.

DOE apparently has only \$10 million in the budget request to help develop technologies and practices that could help increase the life of today's plants. Is this enough given the importance of nuclear power? How much more could DOE efficiently use?

Mr. Spurgeon. The Department of Energy recognizes the important and irreplaceable role operating nuclear plants play today and in the future in securing our Nation's energy supply and in reducing greenhouse gases. We also recognize the need for and are working on research to understand and predict aging-related issues early and to implement corrective actions. Other nations employing large numbers of nuclear plants are undertaking similar life extension efforts.

The \$10 million requested adequately funds the needed research on the long-term sustainability of these plants as outlined in the 2009 Budget.

Chairman Visclosky and Ranking Member Hobson. That \$10 million is buried with the Gen IV Nuclear Energy Systems Initiative, which is really focused on developing the next generation of nuclear reactors. Is this the proper place for such an important program? Should there be a separate line so we can better track results?

Mr. Spurgeon. Placement of this activity within the Generation IV Program reflects our recognition of the need to integrate these activities with other nations and the domestic nuclear industry. It also points out that discoveries related to the sustainability of existing plants must feed back into new plant designs. We intend for this program to be very transparent.

ADVANCED FUEL CYCLE INITIATIVE (AFCI)

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, the Advanced Fuel Cycle Initiative is intended to reduce the nuclear waste stream headed for eventual disposal in a geological repository. This is a goal I think we can all get behind. But the MOX plant is not the only component of AFCI that we have significant questions about.

In order to get spent fuel into a form that can be made into new fuel, it needs to be separated into uranium, plutonium, and other elements. So far, DOE has not settled on a technology pathway for any advanced separations process. Your budget request includes \$25 million for aqueous fuel treatment and \$34 million for "other separations processes", including electrochemical processing, or pyro-processing. The FY2006 House-passed bill directed DOE to determine a path forward by September 2007.

You were directed to make a decision on a technological path forward by the end of fiscal year 2007. You've obviously missed that. What is the status of selecting a technology?

Mr. Spurgeon. Separations processes will be required to recycle used fuel from both current-generation light water reactors and also advanced commercial power reactors and fast reactors designed for power production plus the transmutation of transuranic elements. Depending on the future mix of power reactors (a decision that will largely be made by the commercial electric utilities), several alternate technological paths forward may be required. We anticipate that any decisions with respect to the selection of a technology to be based upon our research results, input from the private sector, and foreign partners, and our analyses pursuant to the National Environmental Policy Act.

Chairman Visclosky and Ranking Member Hobson. You've selected four industry teams to further develop their designs under AFCE. What are the next steps on these industry efforts?

Mr. Spurgeon. The industry teams have provided two sets of deliverables so far, one in January 2008 and another in April. They have provided preliminary data and information in areas including business planning, technology development, and conceptual design relating to closing the nuclear fuel cycle. We expect additional information from the industry teams in the future. All this information will help inform the Secretary's decision on potential GNEP deployment alternatives, as well as to inform the public and key stakeholders regarding the potential GNEP path forward.

ADVANCED FUEL CYCLE FACILITY (AFCF)

Chairman Visclosky and Ranking Member Hobson. In your briefings with staff you estimate that the AFCF will produce 25 metric tons of waste every year. What assumptions are behind this estimate?

Mr. Spurgeon. The AFCF would be designed to test several processes. We believe the number quoted to the staff refers to the amount of waste that would be the average input for aqueous processes according to DOE's estimates at this time.

Chairman Visclosky and Ranking Member Hobson. Where will the waste be sent?

Mr. Spurgeon. The disposal path for AFCF waste will be reviewed at each critical decision by the Acquisition Executive per the Department's project management procedures to ensure plans are sound, risks are acceptable and applicable regulations and laws are followed. The high level waste generated by AFCF waste would be disposed of in a national geologic repository. The non-defense transuranic waste generated by AFCF would be sent to the disposal alternative identified in the Department's Record of Decision for the Greater-Than-Class C Waste Environmental Impact Statement. Low-level waste (LLW) would be sent to an operational low level waste disposal facility. Cesium and strontium would nominally be disposed of as high-level waste in a national geologic repository, but will be evaluated for alternative disposal paths if waste form performance (e.g., acceptance criteria can be met for disposal as LLW waste following decay storage) and the economic efficiency can be demonstrated.

Chairman Visclosky and Ranking Member Hobson. Please provide for the record documentation showing the planned disposition pathway for 100 percent of this waste.

Mr. Spurgeon.

The GNEP program is working on an Integrated Waste Management Strategy in addition to the GNEP PEIS.

AQUEOUS VS. ELECTROCHEMICAL PROCESSING

Chairman Visclosky and Ranking Member Hobson. Aqueous reprocessing has as a byproduct a significant amount of nasty chemical waste. What byproducts does electrochemical processing have?

Mr. Spurgeon. All chemical processing of used nuclear fuel involves the penetration of cladding materials and the release of gaseous fission and activation products. After that initial step, aqueous and electrochemical byproducts differ. The two major electrochemical byproducts (or waste forms) are a ceramic waste and a metallic waste. The ceramic waste will be a mixture of salt, zeolites and glass and will contain the bulk of the fission products. The metal waste will be a mixture of cladding hulls and undissolved fission products, largely transition elements such as molybdenum.

Chairman Visclosky and Ranking Member Hobson. What are the advantages of aqueous processing versus electrochemical processing?

Mr. Spurgeon. Each process has advantages and disadvantages. Aqueous processing has three major advantages: (1) the technology is well established, having been used on a commercial scale for more than 50 years, (2) it can be operated on a continuous basis, allowing high throughputs, and (3) it is capable of great selectivity, permitting high decontamination and the isolation of essentially any individual or selected group of final products. Its major disadvantages are radiation sensitivities of certain organic solvents, requiring significant used fuel decay times before processing and solvent cleaning before recycle; the use of low atomic number materials which increase criticality hazards; and the need for corrosive acids if the used fuel is metallic with certain alloy compositions.

Electrochemical processing has several significant advantages, including the ability to process used metallic fuels over a wide range of alloy compositions, the ability to process short-cooled used fuel and the lack of low atomic number materials resulting in greatly reduced criticality concerns. Its disadvantages are lack of commercial-scale operating experience, its operation on a batch basis, reducing throughput rate and its lower selectivity of elements, resulting in decreased decontamination and less flexibility in the selection of products.

SMALL REACTORS

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, your AFCI budget request includes \$20 million for small reactors. What future do you see for small reactors in the United States?

Mr. Spurgeon. Grid-appropriate reactors (GAR) serve U.S. national interests in two primary areas:

1) Domestic development of grid-appropriate reactors (previously called "small reactors") under AFCI/GNEP enables the U.S. to join other nations in shaping global nuclear expansion. Other countries including Argentina, France, India, Japan, Russia, South Africa, and South Korea have already recognized the global demand for grid-appropriate reactors and are moving aggressively to develop and market their own designs. U.S.-designed reactors represent a market opportunity for U.S. industry. Over the long term, successful U.S. competition in the international market for nuclear plants can help to revitalize the U.S. nuclear design and manufacturing industry and position it to meet domestic power needs.

2) The U.S. has long been interested in smaller-sized power reactors for both civilian and military use. A number of industries and communities are exploring using smaller reactors for applications such as process heat for oil recovery from shale and tar sands, production of bio-fuels, and water desalination. For electricity generation, the reduced capital cost of smaller-sized plants may meet the needs of smaller utilities/owners seeking to match modest demand growths or in remote locations that have smaller, non-interconnected grids. For example, the community of Galena, Alaska has been working for several years to determine whether their electricity needs could be supported by a small nuclear reactor. Similarly, Tinian of the Commonwealth of Northern Mariana Islands, has also expressed interest in deploying nuclear energy to meet their growing electricity demand. The U.S. Air Force has expressed interest in building smaller-sized reactors to power their bases and installations.

Chairman Visclosky and Ranking Member Hobson. Why is this an appropriate part of AFCI, as opposed to being funded under Generation IV reactor research?

The Grid-appropriate reactor program is developing a two-phase approach to development and deployment of these systems; near-term and long-term. In the near-term significant differences exist between the types and timing of the systems under development in each program. Specifically:

i. The timeframe for readiness for deployment of initial GAR systems is 2015-2020 whereas Gen IV systems are seen as ready for commercial deployment after 2030. There is a need to have U.S.-designed grid-appropriate reactors available in the near-term because there is increasing worldwide demand for electricity, especially in developing economies, and nuclear power will likely be used to satisfy part of this demand. Most commercially available reactors today, with capacities of about 1,000 megawatts, are better suited to large markets such as the U.S. but not to countries with smaller electricity grids and less developed infrastructures. It's

anticipated that developing economies will more likely require reactors in the range of 200 to 600 megawatts, which is the focus of the GNEP grid appropriate reactor initiative.

ii. The technologies envisioned for Gen IV systems are immature (e.g., gas-cooled, sodium-cooled, lead-cooled), whereas, near-term GAR systems are expected to be based on proven, light-water technology. A recent International Atomic Energy Agency (IAEA) assessment of the requirements and considerations common to the 30+ countries pursuing commercial nuclear power found that proven technology performance was the first priority of potential user countries.

In the longer-term the development of small reactors for international deployment and selected domestic use is envisioned to use more innovative technologies.

Chairman Visclosky and Ranking Member Hobson. We noted with some interest that the Air Force is considering a new, small nuclear reactor at a base in New Mexico.

Who would license this plant?

Mr. Spurgeon. Since this plant would be commercially owned and operated, the Nuclear Regulatory Commission would license and regulate the plant.

Chairman Visclosky and Ranking Member Hobson. What role, if any, would the Office of Nuclear Energy have in the design and construction of this plant?

Mr. Spurgeon. The role, if any, of the Office of Nuclear Energy in the design and construction of this plant has not been determined. It would depend on (a) the type of reactor technology deployed and (b) the use of the reactor process heat for industrial applications other than electricity production. If requested, the Department of Energy has agreed to consult with the Air Force on its selection of the plant. If the selected technology is an existing commercial light water reactor plant design, DOE's consulting role would be minimal. If the selected technology is an advanced reactor technology, such as a small modular reactor, then NE's consultation and assistance to the Air Force selection process may be more substantial. DOE's consultation role also may be more substantial if the selected technology couples an advanced reactor design and its process heat with other industrial applications such as the production of biofuels or synthetic fuels.

Chairman Visclosky and Ranking Member Hobson. The Air Force claims it might need this plant in case of grid interruptions. The press, on the other hand, credits a certain Senator with the idea.

Given the high demand for nuclear engineers, construction, and management, could competition from the Department of Defense with the civilian sector actually delay the nuclear renaissance, and perhaps make it more expensive?

Mr. Spurgeon. Since any Air Force initiative will be a commercial enterprise, we do not view it as competition for infrastructure resources.

NUCLEAR ENERGY INFRASTRUCTURE

Chairman Visclosky and Ranking Member Hobson. The FY2009 Omnibus Appropriations Act provided direction and funding for infrastructure improvements at Oak Ridge and Los Alamos.

What is the status of this work? Has the directed funding been transferred to the recipient laboratories yet? If not, why not?

Mr. Spurgeon. The Office of Nuclear Energy allocated the required FY 2008 infrastructure funding to both Oak Ridge National Laboratory (ORNL) and Los Alamos National Laboratory (LANL) (\$15 million each). At ORNL the funds are designated to be used for hot cell facilities associated with the Coupled End-To-End processing experiment and other needed upgrades, and at LANL the funds are planned for upgrades to the Chemistry and Metallurgical Research (CMR) facility hot cells and LANSCE Area A hot cell facilities that will support AFCI/GNEP and other R&D programs.

NUCLEAR ENERGY INFRASTRUCTURE

Chairman Visclosky and Ranking Member Hobson. We have heard unconfirmed reports that the Department is resisting providing the \$15 million for hot cell upgrades at Oak Ridge, as was directed in the N2009 omnibus.

- Have you released the \$15 million to Oak Ridge for hot cell upgrades, and if not, why not?
- What else does your office want to do with that funding?
- Why does your office again believe that it has any discretion to not execute clear Congressional direction?

Mr. Spurgeon. The \$15 million planned for hot-cell upgrades at Oak Ridge has been allocated by the Office of Nuclear Energy in the March Approved Funding Plan.

Chairman Visclosky and Ranking Member Hobson. Has your office made any attempt to deviate from the Congressional direction for infrastructure improvements at Los Alamos, or are you only doing that for the House priority at Oak Ridge?

Mr. Spurgeon. No, our office has allocated the funding for hot cell upgrades to both Los Alamos National Laboratory and Oak Ridge National Laboratory. The Office of Nuclear Energy fully intends to use the funding to perform hot cell upgrades consistent with Congressional direction.

NEXT GENERATION NUCLEAR PLANT

Chairman Visclosky and Ranking Member Hobson. After DOE pulled the plug on the FutureGen partnership, there are some in industry that view DOE as not being a reliable partner on any cost-shared research projects. Why should the nuclear industry trust DOE on the NGNP project, and what assurance can you offer that DOE would do the same with NGNP as it did with FutureGen?

Mr. Spurgeon. To ensure that an optimal cost sharing strategy is developed, the Department of Energy (DOE) issued a Request for Information and Expression of Interest on April 16, 2008, seeking guidance from industry on how we might best implement the Next Generation Nuclear Plant Program (NGNP). The responses will be reviewed by the Nuclear Energy Advisory Committee, and their recommendations. We believe that any partnership agreement will have to include well-defined roles, responsibilities, and progress milestones for both the industrial partners and DOE and must include accountability mechanisms. The final NGNP strategy and its implementing partnership agreement will clearly define the manner in which cost overruns and schedule delays are handled as well as provide specific criteria for exercising contract off-ramps. Once a strategy is agreed upon, DOE will issue a Request for Proposal to ensure an open and competitive selection process.

Chairman Visclosky and Ranking Member Hobson. If one of the principle problems with FutureGen was industry's unwillingness to bear its fair share of the cost increases on the project, that suggests that maybe industry should have had lead responsibility with DOE providing financial support, rather than the other way around. Would such a model work for NGNP?

Mr. Spurgeon. We believe that the success of the Next Generation Nuclear Plant project is contingent upon the participation and leadership of the commercial sector and the ability of the Government to help contribute research and development advancements for new reactors that use nontraditional technology and provide information on challenges and risks. Current nuclear power plants have fully demonstrated clean, base-load power supply over extremely long periods of time while simultaneously providing good-paying jobs, tax revenues, and profitability. We have formally solicited commercial sector input as to how the project could be structured by issuing a Request for Information and Expressions of Interest on April 16, 2008. The responses will inform decisions about the structure of the NGNP partnership.

NP2010

Chairman Visclosky. The FY 2009 budget request for Nuclear Power 2010 is \$241.6 million, an increase of +\$84.3 million over the NP 2010 project baseline for FY2009.

- Mr. Spurgeon-why the increase, or acceleration of NP 2010 funding profile?
- The total projected funding for the NP2010 program was \$586.5 million. With the increased FY2009 request amount of \$241.6 million, the NP 2010 program would just about reach its total funding allocation -with about \$5 million remaining. What is the current out-year request for NP2010? Will it be \$5.0 million in FY 2010, to close-out the program?

Mr. Spurgeon. The original December 2005 baseline projected funding need for fiscal year 2009 was \$134.1 million. This level of funding would not address changes in both the regulatory and reactor technology design standardization activities necessary to achieve an industry decision to build new nuclear plants that have occurred since the original baselines were submitted by our industry partners. Our request of \$241.6 million supports these changes. The following table provides a detailed breakout of the fiscal year 2009 request above the previous baseline funding level:

(\$000)	FY 2009
Total Additional NP 2010 Funding	92,150
Increased Regulatory Costs	60,275
NRC fee increase	8,060
Responses to increased NRC information requests	8,800
Design Centered Working Groups for standardized designs	1,000
Increased standardization in Design Certifications	3,750
Design impacts due to revisions to NRC regulations and guidance	4,500
New NRC requirements	18,500
NRC required increased design detail	13,665
State regulatory requirements	2,000
Increased Design Standardization	31,875
Equipment selection/qualification	15,125
Human factors engineering/I&C standardization	9,850
Construction modularization	6,900

The Department of Energy's (DOE) cost-share supports the demonstration of the untested regulatory process for the combined Construction and Operating License (COL) applications for two new nuclear plants. Since the 2005 baseline estimates were prepared, NP 2010 has become the centerpiece of two Design Centered Working Groups (DCWG) on which COL applications

for ten or more plants (most are twin units) are based. The program also supports the completion of the first-of-a-kind engineering and certification for two standard reactor designs. The additional funding associated with increased standardization supports the industry's effort to extend the level of design detail in support of increased standardization for procurement, operation, and maintenance of the plants. This level of design detail will provide specifications of equipment and components. The designs must have sufficient engineering design details to provide power companies with reliable cost and schedule information they need to make plant orders.

The additional funding associated with increases in regulatory-related costs primarily supports the evolving Nuclear Regulatory Commission (NRC) licensing process. Mainly, responses to NRC requirements, requests for additional information, and the escalating NRC review fee structure account for the increased costs.

Industry is already spending substantial amounts of funding above the 50/50 DOE cost-share in spite of the fact that utilities are not yet able to make the formal decisions to proceed with construction. Without the additional DOE funding, the partners believe they would have to delay their schedules and construction decisions to offset the additional costs.

The NP 2010 Program supports the Federal cost share for completion in FY 2011 of the New Nuclear Plant Licensing Demonstration (NNPLD) projects with the issuance of two combined COLs by NRC for projects under Dominion Nuclear North Anna, LLC, and NuStart Energy Development, LLC, a consortium of ten power generation companies operating over 60 percent of U. S. nuclear power plants; the finalization of two standardized light water reactor designs, the Westinghouse Electric Company AP1000, and the GE-Hitachi Nuclear Energy Americas Economic Simplified Boiling Water Reactor; and a decision to build by industry. Outyear funding decisions will be made through the development of future Budgets.

GENERATION IV NUCLEAR ENERGY SYSTEMS INITIATIVE (GEN IV)

Chairman Visclosky and Ranking Member Hobson. The FY2009 budget request for Gen IV nuclear energy systems initiative is \$70 million, a decrease of -\$44.9 million from FY 2008 enacted levels. What is the reason for the cuts?

Mr. Spurgeon. The FY 2009 budget request is an increase of \$33.9 million over the President's FY 2008 budget request. The FY 2009 budget request is consistent with our plan for the Generation IV Program. It is sufficient funding to maintain the program's progress.

NUCLEAR ENERGY RESPONSIBILITY FOR MOX PLANT

Chairman Visclosky. Mr. Spurgeon, as you know, Congress transferred the funding for the MOX project from the Office of Defense Nuclear Nonproliferation to your office, and transferred the management responsibility as well. We understand that the Office of General Counsel has issued advice preventing the transfer out of the NNSA of management staff who are working on the project.

Mr. Spurgeon, are you still the Assistant Secretary in the Department that is ultimately responsible for the MOX project, or is it someone else?

Mr. Spurgeon. Although I have fiduciary responsibility for the MOX construction project, NNSA is responsible for the management of the MOX project pursuant to an agreement between NNSA and NE under the Economy.

Chairman Visclosky. What is your chain of command over the team of Federal managers at Savannah River, and over the contractor working on this project?

Mr. Spurgeon. The MOX facility Federal Project Director and federal team at the Savannah River Site continue to report to NNSA Deputy Administrator Will Tobey through the NNSA Office of Fissile Materials Disposition. The contractor for the MOX facility reports to the Federal Project Director.

Chairman Visclosky. Given the constraints imposed by Section 3220 of the NNSA Act, how do you maintain effective operational control over these NNSA employees?

Mr. Spurgeon. Because the MOX project continues to be managed by NNSA, I do not have operational control over NNSA employees working on the MOX project.

NUCLEAR ENERGY RESPONSIBILITY FOR MOX PLANT

Chairman Visclosky. Recent reports have surfaced about the "Red Oil" problem at the MOX plant, and the potential for explosion from this problem. Are you familiar with this Red Oil problem?

Mr. Spurgeon. Yes, I am familiar with the nature of "Red Oil" events. I am also familiar with the controls that have been incorporated into the MOX facility design to mitigate any a "Red Oil" event. These controls include: process temperature limits, removal of certain chemicals prior to process heating, venting of process vessels to avoid pressure buildup, and limiting acid concentrations to safe levels.

Chairman Visclosky. Do you consider this problem totally resolved at this time, such that DOE can proceed with design and construction?

Mr. Spurgeon. As "Red Oil" is one of many safety issues that the Nuclear Regulatory Commission (NRC) will consider during its review of the MOX facility operating license, I defer to the NRC to determine whether an operating license should be issued.

Chairman Visclosky. Does the Nuclear Regulatory Commission consider the Red Oil problem to be totally resolved, or will DOE not know that for certain until the NRC considers the operating license for the MOX plant?

Mr. Spurgeon. I defer to the Nuclear Regulatory Commission to answer this question.

Chairman Visclosky. Can you reassure this Committee that the Department will not have to make any changes to the design, construction, or operation of the MOX plant, or incur any additional costs, to address this Red Oil problem?

Mr. Spurgeon. I can reassure the Committee that the design of the MOX facility incorporates a number of DNFSB accepted controls and is expected to meet NRC's anticipated requirements for avoiding a "Red Oil" event.

NUCLEAR ENERGY RESPONSIBILITY FOR MOX PLANT

Chairman Visclosky. The Department is liable for some massive fines to the State of South Carolina if the MOX plant does not become operational by certain dates, dates that there is no chance the Department will meet. Knowing that you cannot meet these state deadlines, why has the Department not submitted a legislative proposal to eliminate the fine provision, or least modify the dates to match what is a realistic construction schedule for the MOX plant?

Mr. Spurgeon. The Department is willing to work with Congress in revising the dates and the economic and impact assistance provisions of the applicable legislation.

Chairman Visclosky. If the fine provision is not modified legislatively, who will pay the necessary fines to the State of South Carolina? Will the funding for those fines come from your budget for the Office of Nuclear Energy, and do your outyear budget projects for Nuclear Energy include such fines?

Mr. Spurgeon. The payment of the fines to the State of South Carolina is subject to the availability of appropriations from Congress.

Chairman Visclosky. If these fines are not in your budget, where are they shown in the Department's budget or elsewhere in the Federal budget?

Mr. Spurgeon. Because the payment of the fines subject to the availability of appropriations from Congress, they are not currently reflected in the Department's budget.

STANDARD CONTRACT FOR NEW PLANTS

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, as you can tell, this Committee is very concerned about the liability facing the Federal government for commercial spent fuel.

Who is responsible for negotiating contracts with the utilities for the proposed new reactors – is it your office, Mr. Sproat's office, or someone else in the Department?

Mr. Sproat. Section 302(a) of the Nuclear Waste Policy Act authorizes the Secretary to enter into spent nuclear fuel disposal contracts with the owners of spent nuclear fuel. The Secretary has delegated the responsibility for these contracts to my office. As with the existing spent nuclear fuel disposal contracts, OCRWM will be the office responsible for the execution of any contracts for new nuclear power reactors.

Chairman Visclosky and Ranking Member Hobson. How is the existing "standard contract" being modified to limit the Federal government's liability for spent fuel from these new plants?

Mr. Sproat. The Department believes that, in order to execute the Standard Contract with the owners of new nuclear power reactors, certain amendments to the terms and conditions set forth in the existing Standard Contract (10 CFR 961) are appropriate in order to address the passage of time since the rule was promulgated. The Department anticipates entering into the Standard Contract subject to an amendment that addresses the passage of time, including provisions that specify the extent to which DOE would be liable if it did not take spent nuclear fuel generated by the nuclear power reactor by a certain time.

Chairman Visclosky and Ranking Member Hobson. Do you believe you have statutory authority to enter into new standard contracts for new reactors without seeking Congressional approval? In other words, what is your authority to expose the Federal government to a known and avoidable future liability?

Mr. Sproat. As stated previously, Section 302(a) of the Nuclear Waste Policy Act authorizes the Secretary to enter into spent nuclear fuel disposal contracts with the owners of spent nuclear fuel. The Department believes that this authority extends to the execution of additional contracts with the owners of new commercial nuclear power reactors.

IDAHO NATIONAL LABORATORY

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, the Idaho National Laboratory is your lead laboratory for nuclear energy. Unfortunately, it seems that you do not take it seriously. Do you have a 10-year master plan for developing the facilities at the Idaho National Laboratory?

Mr. Spurgeon. Yes. The Department of Energy develops and maintains internal Ten-Year Site Plans (TYSP) under DOE Order 430.1B to establish a corporate, holistic, and performance-based approach to real property life-cycle asset management. What I have realized is that DOE's nuclear energy research and development program, although anchored at the Idaho National Laboratory is really a national and even international program. Accordingly, I have commissioned an extensive and comprehensive assessment of capability requirements, an assessment of the availability of these capabilities, and a 20-year program plan to maintain, operate, and acquire the necessary capabilities. This plan, which I call the National Nuclear Capability Program Plan, is underway and should be completed this calendar year. I have tasked the Nuclear Energy Advisory Committee to oversee and assess the development of this plan. My intention is to build upon the highly successful Office of Science report, "Facilities for the Future, A Twenty Year Outlook," to assure a structured, transparent approach to building and maintaining an efficient national nuclear energy R&D capability that can support existing and future nuclear power applications.

NUCLEAR EDUCATION ASSISTANCE

Chairman Visclosky and Ranking Member Hobson. We understand that the nuclear community is generally quite pleased that this Committee moved financial support for nuclear education out of your office and to the Nuclear Regulatory Commission. Your Office is left with providing financial support for the fuel for university research reactors. We understand from the research community that the \$3.7 million you are requesting for FY2009 for research reactors is not sufficient even to pay the costs for the fuel alone, let alone the cost of transporting that. We understand that the real need for FY2009 is more like \$15 million, not \$3.7 million. How would you answer that criticism that your office is continuing to underfund the universities working on nuclear energy?

Mr. Spurgeon. The FY 2009 Budget for the university reactor program is sufficient to accomplish the goals and responsibilities of the program. The Office of Nuclear Energy provides 26 university research reactors with fresh fuel and supports the shipment of their spent fuel as needed. Over the past several years, NE has supported the Department of Energy Global Threat Reduction Initiative to eliminate the use of highly enriched uranium (HEU) by focusing effort on the additional shipments of HEU spent fuel from the converted university reactors. To date, seven conversion spent fuel shipments have been completed. These conversions are one-time events that have put additional requirements on the program, which have been managed through careful scheduling and program management. DOE believes the estimate cited by the universities includes reactor and infrastructure upgrades that are not DOE's responsibility.

Chairman Visclosky and Ranking Member Hobson. How much of your FY2007 Nuclear Energy funding went to universities? Were those university awards made competitively? Who selects which universities receive funding from your office -is that done by Federal employees, or is it done by your laboratories?

Mr. Spurgeon. In fiscal year 2007, approximately \$54 million went to universities; \$40 million was awarded competitively; \$11 million supported directed research and development work at universities, and \$3 million was for research reactor fuel. The review process is highly structured and systematic, providing an independent assessment by qualified independent experts before proceeding through reviews by national laboratory experts and then Department of Energy personnel with technical and programmatic oversight responsibility. The final award determinations are made through the Principal Deputy Assistant Secretary and the cognizant program Deputy Assistant Secretaries.

Please see below table for breakdown of activities.

Funding to Universities (\$000)		FY 2007
UNIVERSITY PROGRAM		
Research Reactor Fuel		2,947
Fellowships/Scholarships		4,713
NEER		5,000
Jr. Faculty		1,275
Cask Purchase		2,612
University Program Total		16,547
GNEP		
NERI		
2005 NERI Projects		3,076
2006 NERI Projects		2,299
2007 NERI Projects		2,013
2007 NERI-C Projects		7,489
NERI subtotal		14,877
GNEP Readiness		4,000
Program Direct Funding		
Program Directed R&D		8,500
Fellowships		500
Program Direct Funding Subtotal		9,000
GNEP Total		27,877
Gen IV		
NERI		
2005 NERI Projects		617
2006 NERI Projects		1,117
2007 NERI Projects		1,515
2007 NERI-C Projects		1,993
NERI subtotal		5,243
Gen IV Total		5,243
NHI		
NERI		
2006 NERI Projects		1,550
2007 NERI Projects		383
2007 NERI-C Projects		686
NERI subtotal		2,620
Program Direct Funding		
UNLV		2,000
Program Direct Funding Subtotal		2,000
NHI Total		4,620
TOTAL UNIVERSITY SUPPORT		54,286
Competitive Awards		40,339
Direct		11,000
Research Reactor Fuel		2,947
Funding to labs from HQ (not labs)		54,286

Forty million dollars was provided through competitive awards i.e. NERI and university grants. Eleven million dollars was provided directly by the programs to universities to support R&D work, but was not competed. The \$40 million is part of the \$54 million. Forty million dollars of the university-related funds were awarded competitively.

Chairman Visclosky and Ranking Member Hobson. Do you use a peer-review process to determine university awards, similar to what the National Science Foundation uses? If not, why not?

Mr. Spurgeon. The Department of Energy's process for competitive financial assistance awards is subject to 10 CFR 600 and the *Guide to Financial Assistance*, issued by the DOE Office of Procurement and Assistance Policy. Among other requirements, 10 CFR 600.13 prescribes the use of a merit-based selection process in order to provide an independent assessment of applications by knowledgeable individuals according to objective criteria. The Office of Nuclear Energy's review process is, however, more complicated than that used by the National Science Foundation because NE must assess relevance to the program in addition to the inherent merits of a financial assistance application.

CONGRESSIONAL TO COMPETE OF AFCI R&D FUNDS DIRECTION 50 PERCENT

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, let's work through this competition issue in more detail. Congress provided the Department with \$180 million for the Advanced Fuel Cycle Initiative for FY2008, with \$30 million dedicated to infrastructure upgrades at Oak Ridge and Los Alamos and \$150 million to AFCI research and development. Congress directed you to "make available 50 percent of the AFCI funds for research and development in an agency-wide solicitation for universities, national laboratories, and commercial entities." Therefore, you were directed to make a total of \$75 million, or 50 percent of \$150 million, available for this new solicitation.

I understand that your office is close to issuing this new solicitation. Could you tell me the status of this new solicitation, and the scope and dollar value of this new solicitation?

Mr. Spurgeon. The Department issued a Funding Opportunity Announcement for \$15 million on April 17, 2008 to invite applications from universities, national laboratories, and industry to submit research and development applications in the following areas of research:

- Used Fuel Separations Technology
- Advanced Nuclear Fuel Development
- Fast Burner Reactors and Advanced Transmutation Systems
- Advanced Fuel Cycle Systems Analysis
- Advanced Computing and Simulation
- Safeguards
- Advanced Waste Forms

Chairman Visclosky and Ranking Member Hobson. Let me be sure that I understand you correctly. Congress directed you to compete \$75 million in FY2008, and you are proceeding to compete only \$15 million, just a fraction of that amount?

Mr. Spurgeon. The \$15 million amount was determined based on funding available, taking into account the need to avoid major disruption to the program. Many critical experiments were already underway at various national laboratories; if this work was not completed as planned, there would have been significant disruption to, and financial impact on, the program. In other cases, the work required to support the GNEP program could only be performed by a specific DOE national laboratory due to specialized nuclear facilities, or related issues, and therefore was not appropriate for competition. In light of these various restrictions and considerations, we arrived at the amount of \$15 million.

Chairman Visclosky and Ranking Member Hobson. Do you consider your office to be complying fully with this Congressional direction?

Mr. Spurgeon. The planned funding amount of the solicitation reflects our best effort to try to accomplish the intention of the Congressional recommendation, given the numerous restrictions and programmatic considerations we faced.

Chairman Visclosky and Ranking Member Hobson. Committee staff earlier this week requested written information on the Department's latest proposal for complying with this competition requirement. Your office has refused to comply with that information request from this Committee. Instead, the Department chose to reveal its proposal in a press release.

- Why did your office not provide the requested information to the Committee staff in advance of this hearing?
- When you are so far away from full compliance with Congressional direction, competing only \$15 million when you should be competing \$75 million, why did you opt for a press release to announce your non-compliance publicly?

Mr. Spurgeon. It is my understanding that the Department provided the requested materials to your staff the week prior to this hearing. I announced the Department's plan to comply with the recommendation of Congress in my opening statement at this hearing on April 10, 2008. The Department did not issue a press release until April 17, 2008.

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, under the Continuing Resolution for the first several months of this fiscal year, you could spend only at a very constrained rate on AFCL.

What funding obligations have you made to contractors, universities, or DOE laboratories since the FY2008 Omnibus Appropriations Act was enacted in late December?

Mr. Spurgeon. Since the beginning of January 2008, the Department has committed approximately \$44 million to contractors, universities, and DOE laboratories. During the Continuing Resolution period the AFCL/GNEP program was operating at an annual funding level of \$120 million. As a result of the FY2008 Omnibus Appropriations Act, that level was increased by \$61 million to \$181 million. A rescission reduced the total available program funds to approximately \$179 million.

Chairman Visclosky and Ranking Member Hobson. If you had not made these obligations in January, February, and March, you would have had much more funding available to comply with the competition requirement. Once you became aware of the Congressional competition requirement, it appears that your office continued to obligate funds in the past several months that made full compliance with the competition requirement difficult or impossible. Why did you, as the responsible manager for Nuclear Energy, allow that to happen?

Mr. Spurgeon. I directed my staff to fund and implement the program such that we would continue to pursue the AFCL/GNEP objectives, preserve our ability to compete a portion of the R&D budget, and provide the maximum R&D benefit to the government from the limited funding available. During the time between receiving the appropriation language and clarifying the language, we assigned funds to tasks that would move the program forward. When clarification was obtained, I reviewed the situation with my staff and determined that approximately \$15 million could be made available for a competition of AFCL/GNEP activities, as recommended by Congress, without major disruption or significant financial impact on the program.

Chairman Visclosky and Ranking Member Hobson. The media reported that DOE made some new contract awards late last month to the four contractor teams working on AFCI.

What was the amount of those new FY2008 awards?

Mr. Spurgeon. In March 2008, the Department determined it was in the government's best interests to continue funding the four industry consortia cooperative agreements that were awarded under the 2007 Funding Opportunity Announcement. The FY2008 GNEP Deployment Studies awards for Continuation #1 were \$5.9 million to EnergySolutions; \$5.7 million to the International Nuclear Recycling Alliance, led by AREVA and Mitsubishi Heavy Industries; \$5.5 million to General Electric-Hitachi; and \$1.3 million to General Atomics. The continuation was dependent upon successful progress by the industry consortia, availability of appropriated funds, and programmatic decisions on the direction of the GNEP program.

Chairman Visclosky and Ranking Member Hobson. What was the scope of work for these contract awards?

Mr. Spurgeon. The industry consortia cooperative agreements for the GNEP Deployment Studies require the submission of detailed information in the areas of business planning, technology development roadmaps, and conceptual design studies relating to closing the nuclear fuel cycle. Specific guidance has been given to each of the industry teams awarded on areas that the Department believes should be expanded or refined in the deliverables based on the review of preliminary deliverables received in January 2008.

Chairman Visclosky and Ranking Member Hobson. Why did you consider making these contract awards more important than complying with Congressional direction?

Mr. Spurgeon. The GNEP Deployment Studies will provide detailed information in the areas of business planning, technology development roadmaps, and conceptual design studies relating to closing the nuclear fuel cycle. This information will be used to inform the Secretary's decision on potential GNEP deployment alternatives, as well as to inform the public and key stakeholders regarding the potential GNEP path forward. The impact associated with recompeting the funds intended for the GNEP Deployment Studies, which was competed in FY2007, would significantly undermine the Department's effort to gain important industry perspective and insight into how the nuclear fuel cycle should be closed.

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, apparently you are telling this Committee that you will not comply full with the Congressional direction contained in the FY2008 Omnibus, in part because you are claiming that to do so would cause you to lay off researchers at national labs such as Idaho and Oak Ridge. Under such circumstances, why would you make the situation worse by making this additional contract obligation?

Mr. Spurgeon: I do not agree that continuation of the industry consortia cooperative agreements has made the situation worse. The information and perspective that we have gained by engaging industry has been extremely helpful and, I believe, a cost effective way to collect information to support a Secretarial decision on the path forward for GNEP.

As I stated in my testimony of April 10, I am in favor of open competition between national laboratories, industry, and universities. We are working to put the necessary procedures in place. We will compete \$15 million for nuclear energy R&D in FY2008.

MANAGEMENT OF THE MOX PROJECT

Chairman Visclosky. Mr. Spurgeon, apparently you are telling this Committee that you will not comply full with the Congressional direction contained in the FY2008 Omnibus, in part because you are claiming that to do so would cause you to lay off researchers at national labs such as Idaho and Oak Ridge. Under such circumstances, why would you make the situation worse by making this additional contract obligation?

Mr. Spurgeon, as you know, Congress transferred the funding for the MOX project from the Office of Defense Nuclear Nonproliferation to your office, and report language directed the transfer of the management responsibility as well. We understand that the Office of General Counsel has issued advice preventing the transfer out of the NNSA of the management staff who are working on the project.

Mr. Spurgeon, are you still the Assistant Secretary in the Department that is ultimately responsible for the MOX project, or is it someone else?

Mr. Spurgeon. As I mentioned, while I have fiduciary responsibility for the MOX construction project, NNSA continues to be responsible for the overall management of the MOX project.

Chairman Visclosky. What is your chain of command over the team of Federal managers at Savannah River, and over the contractor working on this project?

Mr. Spurgeon. As I mentioned, the MOX facility Federal Project Director and federal team at the Savannah River Site continue to report to NNSA Deputy Administrator Will Tobey through the NNSA Office of Fissile Materials Disposition. The contractor for the MOX facility reports to the Federal Project Director.

Chairman Visclosky. Given the constraints imposed by Section 3220 of the NNSA Act, how do you maintain effective operational control over these NNSA employees?

Mr. Spurgeon. As I mentioned, because the MOX project continues to be managed by NNSA, I do not have operational control over NNSA employees working on the MOX project.

MANAGEMENT OF THE MOX PROJECT

Chairman Visclosky. Mr. Spurgeon, we provided your office with the funding and the responsibility for the MOX project, yet it seems that DOE'S legal interpretation has prevented you from exercising full authority over this project. Do all of the DOE employees and contractors on the MOX project report to you?

Mr. Spurgeon. No, the DOE employees and contractors on the MOX project report to the NNSA Office of Defense Nuclear Nonproliferation.

Chairman Visclosky. Are you personally accountable for how all of the MOX funding provided to the Office of Nuclear Energy is being spent, or are some of those funding decisions being made elsewhere in DOE?

Mr. Spurgeon. The NNSA Federal Project Director is responsible for funding decisions for the MOX project. Although I maintain fiduciary oversight, NNSA continues to manage the MOX project.

Chairman Visclosky. Under the current situation, do you have full management control over all aspects of the MOX project?

Mr. Spurgeon. As I mentioned, NNSA continues to manage the MOX project.

CONFLICT OF INTEREST RESTRICTIONS

Chairman Visclosky and Ranking Member Hobson. Mr. Spurgeon, you came to this job from the United States Enrichment Corporation, is that correct?

Mr. Spurgeon. No. I was retired. I left USEC in late 2003. I was appointed as Assistant Secretary for Nuclear Energy in 2006.

Chairman Visclosky and Ranking Member Hobson. Did the Department place any restrictions on you to avoid any conflict of interest with your old employer, such as having to recuse yourself from any decisions involving USEC?

I would assume that similar ethics restrictions apply to the career staff working in the Department of Energy.

Mr. Spurgeon. Yes, I was required to sever all financial interests with USEC. My USEC retirement pension benefit was converted to an annuity contract managed by an independent third party, USAA Life Insurance Company.

Chairman Visclosky and Ranking Member Hobson. Do similar conflict-of-interest restrictions apply to your staff in the Office of Nuclear Energy?

Mr. Spurgeon. Yes. All executive branch employees are governed by both statutory and regulatory conflict of interest standards. Of course, their precise effect in a particular person's situation will depend on the financial circumstances and contemplated duties of each individual federal employee.

Chairman Visclosky and Ranking Member Hobson. For example, if you have on your staff an employee that came from one of the national labs, wouldn't the same conflict-of-interest restrictions prevent that employee from making decisions affecting funding at his or her home laboratory?

Mr. Spurgeon: The conflicts of interest provisions apply to all executive branch employees, including former national laboratory employees. I understand that the restrictions are applied no differently in my circumstance than they would be in any other case where an employee has a retirement benefit interest in a former employer. The Department of Energy's Office of the General Counsel has provided me with the following explanation of exiting conflict of interest standards:

The statutory conflict of interest standards are found in 18 U.S.C. 208. Specifically, executive branch employees are prohibited from participating personally and substantially in an official capacity in any particular matter in which they, to their knowledge, have a financial interest. This prohibition extends also to financial interests that are imputed to the employee, including, among others, those of their spouse or minor children. If an employee continues to have a financial interest in his former employer, this criminal statute would prevent his participation in a particular matter that impacted

that financial interest unless the employee received a waiver of the participation restriction, a regulatory exemption applied, or the employee divested or otherwise remedied the conflict.

The regulatory conflict of interest standard is found at 5 C.F.R. 2635.502. This provision prohibits an employee from participating in a matter in which his former employer for whom the employee worked in the past year is a party or represents a party if a reasonable person with knowledge of the relevant facts would question the employee's impartiality in the matter. In this instance, an employee may not participate in the matter unless authorized to do so. An employee's immediate supervisor, in consultation with the Office of the General Counsel, may authorize the employee to participate in such a matter based on a determination, made in light of all relevant circumstances, that the interest of the Government in the employee's participation outweighs the concern that a reasonable person may question the integrity of the agency's programs and operations resulting from the employee's participation.

Chairman Visclosky and Ranking Member Hobson. If that is not the case, then please explain why you hold your employees to a different ethical standard than you apply for yourself?

Mr. Spurgeon: I do not hold them to any different standard. In fact, Nominees considered for confirmation by the Senate Committee on Energy and Natural Resources are more restricted than other Federal employees. The Committee's recusal policy, dated May of 1993, restricts an appointee from participating in matters involving specific parties in which the nominee participated on behalf of the former employer in a work or service relationship just ended because of the nomination. The recusal extends throughout the tenure of his or her service in office. Furthermore, the recusal policy restricts an appointee's participation in particular matters involving the nominee's immediate past employment and service relationships where a nominee's participation in the particular matter would not violate 18 U.S.C. 208(a), but would raise a question in the mind of a reasonable person about his or her impartiality. This recusal applies for a period of one year from date of confirmation. In each instance, I had been retired from USEC for more than two years when I became a Federal employee.

LIFE-CYCLE OF GNEP COSTS

Chairman Visclosky and Ranking Member Hobson. What are the life cycle costs of GNEP and of reprocessing and re-using spent fuel? Over how long?

Mr. Spurgeon. Any estimates of the life-cycle costs of closing the fuel cycle are inextricably linked to decisions about the expected growth of nuclear power, the technologies to be deployed, the costs of processing the materials, and the business relationships between the government, utilities, and fuel companies. To inform our understanding of these choices, we engaged industry consortia to share their expertise in how such a system might be structured and what the key pieces might cost.

We have seen a broad range of estimates from the industry consortia which reflect the different technologies they would develop and the strategies they propose. The industry teams provided estimates that ranged from \$400 million to \$20 billion for an initial Nuclear Fuel Recycling Center with capacities that ranged from 50 metric tons of used fuel per year up to 2,000 metric tons per year. Industries estimates for the construction of an "n-th of a kind" Advanced Recycling Reactor ranged from about \$3,000/kWe to \$6,600/kWe. These estimates have not been validated by the Department and do not reflect the Department's position. We are currently in the process of evaluating the industry responses.

COMPARING REPROCESSING TO DRY-CASK STORAGE

Chairman Visclosky and Ranking Member Hobson. Has the Department of Energy compared the costs and proliferation risks of dry-cask storage of spent fuel versus reprocessing? What are the results?

Mr. Spurgeon: Dry-cask storage is a temporary measure in either an open or a closed fuel cycle option. Although the costs and the proliferation risks for dry-cask storage are low, however, it does not provide a solution to final disposal of used nuclear fuel, as does geologic disposal of spent fuel in an open fuel cycle, or recycling and geologic disposal of the residual waste in a closed fuel cycle.

GNEP PARTNERS

Chairman Visclosky and Ranking Member Hobson. Have any of the GNEP international partners committed any money to fund the GNEP proposal; if so how much?

Mr. Spurgeon. In cooperation on R&D, the U.S. has several bilateral agreements for research and technology development with technologically advanced nations. These include China, France, Japan and Russia. Work plans are agreed upon to conduct GNEP-specific research. Each country is obliged to fund its own research and make the results available to the Partner. In addition to the findings of the research, these bilateral agreements provide the United States, in many cases, with research at facilities that do not exist in the United States and research findings otherwise not possible without construction of costly facilities. As such, the United States is getting access to research relevant to GNEP activities as well as to facilities that do not need to be financed through appropriations.

In addition, the GNEP International Partners, at the Ministerial Level, agreed early in the Partnership that resource contributions would be a critical part of the efforts to realize GNEP's objectives. The Partners further determined that the most effective way to approach resource contributions is to task the working group experts to first identify those areas that would be best suited to receive resource contributions and then propose to the GNEP senior members the specific types of resources needed, such as in-kind contributions that could include training, expertise and facilities, as well as financial contributions. The Partners also charged the expert working groups with ensuring that any such resources and proposed activities are conducted in a manner that complements other efforts that also seek similar goals, such as those efforts being carried out by the IAEA, and avoid duplications. This approach is reflected in the Terms of Reference for both working groups that specifically addresses the need to address resources and to ensure our efforts do not duplicate others.

Finally, in an effort to provide financial support for the Partnership, Jordan hosted the GNEP Steering Group meeting held in May 2008.

Chairman Visclosky and Ranking Member Hobson. Have any of the GNEP partners agreed not to develop sensitive fuel cycle technologies (reprocessing and uranium enrichment)?

Mr. Spurgeon. Jordan signed a Memorandum of Understanding (MOU) with the Department of Energy in September 2007 under which it affirmed its intent "to rely on existing international markets for nuclear fuel services as an alternative to the pursuit of enrichment and reprocessing...." It should also be noted that two countries with interest in GNEP have expressed their intent not to develop sensitive fuel cycle technologies. On March 24, 2008, the Kingdom of Bahrain signed a MOU with the same language provided above. The United Arab Emirates have made a unilateral statement of their intention to rely on international markets for fuel supply. The U.S. is currently negotiating several other MOUs that have similar wording with other nations.

LEGITIMIZING THE SEPARATION OF PURE PLUTONIUM

Chairman Visclosky and Ranking Member Hobson. The Department of Energy has repeatedly talked about GNEP noting the "long-term goal of ceasing separation of plutonium." However, at the second GNEP Ministerial last year, the United States endorsed the practice of two of the most enthusiast GNEP partners, France and Japan, which separate out pure plutonium and noted that they would not be required to change this practice. How do you explain the contradiction of saying GNEP will lead to less separated pure plutonium, when in fact the United States is legitimizing the reprocessing of spent fuel which has led to over a hundred metric tons of pure plutonium (over 50 MT in France and 78 MT in the United Kingdom according to the Global Fissile Material Report 2007)-equivalent to about 16,000 nuclear weapons (assuming 8kg of plutonium as the IAEA-defined significant quantity for a nuclear weapon)?

Mr. Spurgeon. The GNEP Statement of Principles state that the goals of GNEP are to "develop and demonstrate, inter alia, advanced technologies for recycling spent nuclear fuel for deployment in facilities that do not separate pure plutonium *with the long term goal of ceasing separation of plutonium and eventually eliminating stocks of separated plutonium.*" (Emphasis added.) By signing this document, the 21 partners, including those now engaged in reprocessing, will work toward the goal of recycling spent fuel without separating pure plutonium and eventually eliminating stocks of separated plutonium. The United States and the other GNEP partners support improving the proliferation-resistance of new processes and new fuels. A primary goal of the advanced research and development under GNEP is to develop these advanced separation technologies and processes. Until such time as these technologies are available, we expect France and Japan to continue to maintain their capabilities as part of their national nuclear energy, fuel cycle and waste management policies, having invested billions of dollars in their current reprocessing programs.

Both countries adhere to the International Plutonium Management Guidelines, published by the IAEA as INFCIRC/549, which establish standards for physical protection, material accountancy and exports, and emphasize "the importance of balancing supply and demand" in reprocessing. Achieving that goal will take many years, but by signing the GNEP Statement of Principles both countries are deepening their commitment to that goal.

PLANS FOR A NEW GOVERNMENT REQUEST ENTITY TO REPROCESS SPENT FUEL
AND BUDGET REQUEST

Chairman Visclosky and Ranking Member Hobson. In the Department of Energy's briefing to Congress in February about nuclear energy, the Department proposed the creation of a new government entity (operated as a not-for-profit) to plan and implement reprocessing and re-use. This entity would be funded using and increasing the waste user fee.

What increase are you projecting?

Mr. Spurgeon. The Department has not officially formulated a position on a governmental corporation, and continues to evaluate this matter and review input from industry. In order to engage industry experts in the conceptual design of an initial nuclear fuel recycling center and advanced recycling reactors as part of GNEP, the Department issued a Funding Opportunity Announcement (FOA) last year to acquire conceptual design studies, technology roadmaps, and business plans essential to closing the fuel cycle and achieving the GNEP vision. In particular, the business plans will address how the market may facilitate DOE plans to develop and commercialize the advanced fuel cycle technologies and facilities.

Industry indicated support for the creation of a new government corporation with access to the Nuclear Waste Fund to manage used nuclear fuel, including recycling and disposal.

Chairman Visclosky and Ranking Member Hobson. The FY 2008 omnibus bill barred any use of funds for facility construction for technology demonstration or commercialization, denying DOE's plans to build reprocessing and fast reactor commercial-scale demonstration facilities. Is any FY 2008 money being used to plan this new government entity which would implement and operate commercial-scale facilities?

Mr. Spurgeon: In accordance with FY 2008 Omnibus Bill, DOE is not spending funds for facility construction for technology demonstration or commercialization of reprocessing facilities or a fast reactor. DOE is evaluating the industry consortia responses resulting from the May 2007 Funding Opportunity Announcement, which will be used to inform the Secretarial decision on the GNEP path forward.

Chairman Visclosky and Ranking Member Hobson. How much money is the Department spending on designing demonstration or commercial-scale facilities?

Mr. Spurgeon. In Fiscal 2008 (FY08), NE allocated \$8.5 million for conceptual design activities. Of that total, \$3 million is for the Advanced Fuel Cycle Facility, \$2 million is for the Advanced Burner Reactor, and \$3.5 million is for the Consolidated Fuel Treatment Center.

PROLIFERATION RISKS OF GNEP

Chairman Visclosky and Ranking Member Hobson. For decades, the United States led by example by not reprocessing nuclear waste, convincing countries like Taiwan, South Korea, Argentina, Germany not to develop commercial reprocessing or uranium enrichment capabilities.

Since the Administration unveiled GNEP in February 2006, the United States has begun reprocessing cooperation with South Korea, while other countries such as Ukraine, Kazakhstan, South Africa, Canada, Argentina have at least expressed an interest in uranium enrichment. None of these countries have foresworn reprocessing or uranium enrichment technologies. Given these developments, hasn't the GNEP plan of decreasing the risks of nuclear proliferation already backfired by increasing the number of countries that are expressing interest in becoming supplier states by considering engaging in uranium enrichment or reprocessing activities?

Mr. Spurgeon. The goal of the GNEP reliable fuel services concept is to help prevent the spread of enrichment and reprocessing technologies by offering reliable access to nuclear fuel supply as an alternative. Countries considering enrichment programs, under the Nuclear Nonproliferation Treaty have the right to develop the capability in adherence with IAEA safeguards and security provisions. However, GNEP will work to promote an environment in which they would not have a need to do so.

The statements of these countries signal that they may explore enrichment technologies, though none are explicit about reprocessing. The anticipated worldwide expansion of nuclear power, competition for a reliable source of uranium, and rising fossil fuel prices have raised concerns about energy security. GNEP's concept of reliable nuclear fuel services is in its early stages, but is expected to provide an attractive alternative to countries with plans for new, expanding or established nuclear power programs to investing in expensive technology.

Chairman Visclosky and Ranking Member Hobson. How many countries have scientists collaborating with the United States on sensitive fuel cycle technology under the GNEP program?

Mr. Spurgeon. Predating GNEP, we established agreements for collaboration on separations technology with other countries that already have established reprocessing capabilities, namely France and Japan. Those agreements provide for the exchange of civilian nuclear technologies on a quid pro quo basis. None of these collaborations involve the exchange of sensitive nuclear technology as defined by the Atomic Energy Act and 10 CFR Part 810.

COLLABORATION WITH SOUTH KOREA ON GNEP

Chairman Visclosky and Ranking Member Hobson. After decades of trying to convince South Korea not engage in sensitive fuel cycle technology R&D, the United States is now collaborating with South Korea on pyroprocessing and fast reactors as part of GNEP. Can you tell us how much money DOE is spending on this collaboration (either financial assistance to South Korea or paying for South Korean scientists to come to the United States to work on this program)?

Mr. Spurgeon. DOE does not provide financial assistance to South Korea for either programmatic work or travel. Through the International Nuclear Energy Research Initiative (I-NERI) program the United States promotes bilateral lab-to-lab and university R&D cooperation with South Korea. I-NERI serves to promote scientific and technological bilateral cooperation in nuclear energy and related fields and to enhance each country's capabilities to make positive contributions in these fields for their mutual benefit. South Korea was the United States' first I-NERI partner starting in 2001 and it supports DOE nuclear energy R&D cooperative initiatives as an opportunity to enhance the management of used fuel and to continue the development of its own nuclear energy program, which represents a major source of electricity supply in Korea. However, in an I-NERI collaboration each country funds its own work with no funds being transferred or provided by one to the other.

GNEP PARTNERS IN BECOMING COUNTRIES INTEREST SUPPLIER

Chairman Visclosky and Ranking Member Hobson. Since the Administration unveiled GNEP in February 2006, how many countries have expressed interest in sensitive fuel cycle technologies?

Mr. Spurgeon. The U.S. has established bilateral agreements with four countries that deploy advanced nuclear technologies and already possess enrichment and reprocessing technologies to work on advanced reactor and separations technologies. These are: China, France, Japan and Russia.

I am not aware of any other country that has expressed an interest in sensitive fuel cycle technologies because of GNEP. The anticipated growth in demand for uranium and for enrichment has led some countries that mine uranium to consider and make public statements about the possibility of providing enrichment services as well.

It is notable that several countries; specifically, Jordan, Bahrain, and United Arab Emirates have explicitly stated their intention not to seek sensitive fuel cycle capabilities and to rely instead on the international market for those services.

PROLIFERATION-RESISTANCE OF REPROCESSING TECHNOLOGY

Chairman Visclosky and Ranking Member Hobson. As part of the Global nuclear Energy Partnership (GNEP), the Department of Energy's proposal to reprocess spent fuel in the United States includes building a reprocessing and fuel fabrication facility to reprocess spent material and re-use it in light-water reactors, as France does. The latest version of this proposal includes separating out the plutonium with uranium which provides little proliferation resistance.

- How can DOE claim that this program promotes non-proliferation when this proposal offers much less proliferation resistance than nuclear waste in current form (without reprocessing) which is ten times better than the IAEA self-protection standard in terms of proliferation-resistance?
- Could a terrorist use this material, or easily reprocess this material, to make a nuclear weapon?

Mr. Spurgeon. The heart of the GNEP vision is to facilitate the use of nuclear energy worldwide while reducing proliferation risks, particularly those associated with the international nuclear fuel cycle. GNEP proposes to accomplish that by developing a regime of reliable fuel services that will permit a partner country to deploy nuclear power plants while eliminating any legitimate need to develop and deploy those sensitive fuel cycle facilities that pose the greatest risk of proliferation, i.e., enrichment and reprocessing plants. With regard to the selection and use of particular reprocessing technologies within the United States or other fuel cycle states, it is important to distinguish between the risk of proliferation by the state and the security risk of theft or attack by non-state actors. The state-level risk is addressed by limiting the sharing of reprocessing technology to countries that already have it. To address the security risks, it is essential to incorporate the most advanced safeguards and security technologies and approaches into the design of U.S. fuel cycle facilities. GNEP would address the security risks by ultimately using reprocessing methods that do not separate pure plutonium, and by reducing and eventually eliminating stocks of pure plutonium. Together, these measures will help ensure that such materials are not available for use by terrorists.

GAO REPORT ON IPP FUNDS BEING USED FOR GNEP ACTIVITIES

Chairman Visclosky. A Government Accountability report (<http://www.gao.gov/docsearch/abstract.php?rptno=GAO-08-434T>) recently uncovered that DOE was spending Initiatives for Proliferation Prevention (threat reduction program to redirect former Soviet WMD scientists to non-weapons work) money to train and cooperate with Russian scientists on GNEP projects despite Congressional skepticism about GNEP and no Congressional authorization to use IPP funding for GNEP activities.

How much IPP money has been spent advancing GNEP?

Mr. Spurgeon. No GIPP funds have been spent directly on "advancing GNEP." In FY07 and FY08, GIPP selected seven scientist engagement and redirection projects that can help advance nuclear energy systems designed to reduce proliferation risks in the fuel cycle. These projects involve funding over three years with a total value of \$5,431,998.

As noted by William Tobey, Deputy Administrator for Defense Nuclear Nonproliferation, one longstanding U.S. nonproliferation policy goal is to prevent the spread of enrichment and reprocessing, which can be used to produce fissile material for weapons. To advance that goal, GIPP projects that fall in the GNEP-related areas of advanced reactor and fuel cycle technology make use of the special knowledge that former WMD scientists possess to promote development of technologies that are more proliferation-resistant than the processes currently in use in the civil nuclear fuel cycle. It should be noted that two of these projects involve development of improved international safeguards measures for fuel cycle facilities. In addition, any project involving export-controlled information or technology was deliberately structured to ensure that the technology flow is from Russia to the United States.

Chairman Visclosky. Have these activities been terminated?

Mr. Spurgeon. These activities have not been terminated. Several have been suspended pending review by U.S. Government agencies, which we expect to complete soon.

Chairman Visclosky. What is the timeline for termination?

Mr. Spurgeon. As mentioned above, these projects are under review by the U.S. interagency. The review includes development of a Terms of Reference for review of all scientist engagement projects to ensure consistency with U.S. nonproliferation policy and objectives.

U.S. AND REPROCESSING

Chairman Visclosky and Ranking Member Hobson. The Department of Energy is proposing a two-track plan to reprocess and re-use plutonium in reactors, first reusing it in light-water reactors, while continuing R&D pyroprocessing and on re-use in fast reactors. The Department of Energy has claimed that re-use in fast reactors (if these can ever be operated safely, prove cost-effective and not pose a proliferation risk; the Nuclear Energy Institute estimates that fast reactors are 40-50 years away) would reduce the radioactivity of some of the nuclear waste and postpone the need for additional permanent nuclear waste repositories. Is there any reason to rush to start reprocessing now (by establishing a new government entity as DOE has proposed) when reprocessing in light-water reactors does not reduce the radioactivity of the nuclear waste, contaminates the reprocessing site (note the \$5.3 billion clean-up at the West Valley, NY site shut down in 1972), and would lead to stockpiling material that is nuclear weapons-usable or readily processed to be nuclear weapons-usable, as has happened in the United Kingdom and France?

Mr. Spurgeon: I disagree with the characterization of the GNEP Program schedule as a "rush to start reprocessing now."

There are several reasons to pursue reprocessing today, including waste management and non-proliferation.

- Successful operation of a reprocessing plant would recover and reuse valuable resources and reduce the burden on geologic repository(ies) because the nuclear material requiring such disposal would have a lower radiotoxicity.
- A new reprocessing plant would promote non-proliferation by allowing the U.S. to work with other advanced nuclear nations to develop a fuel services program that could provide nuclear fuel and recycling services to nations who voluntarily forego developing enrichment and reprocessing technologies.
- In addition, taking an incremental step could improve the nuclear infrastructure in the United States, both facilities and personnel.

DOE envisions a modern recycling facility, most likely to be licensed by the Nuclear Regulatory Commission (NRC). If licensed by the NRC, the NRC would first work to put in place a regulatory framework for recycling facility licensing, with input from the public. Any regulatory framework would address decommissioning and decontamination responsibilities.

The GNEP Program would not lead to stockpiling nuclear material because the concept for a used fuel recycling center includes a fuel fabrication plant, which could use this material to make new fuel. The concept is to consume the plutonium in reactors as quickly as possible after it is produced in the recycling plant.

As noted previously, the above concept for fuel fabrication would be in addition to and would not affect the fabrication of MOX fuel from at least 34 metric tons of weapon-grade plutonium at the MOX Fuel Fabrication Facility, which DOE currently is constructing at the Savannah River Site, to further non-proliferation objectives and meet US commitments under the "Agreement Between the Government of the United States of America and the Government of

the Russian Federation Concerning the Management and Disposition of Plutonium Designated
As No Longer Required for Defense Purposes and Related Cooperation.”

PROLIFERATION-RESISTANCE OF REPROCESSING TECHNOLOGY

Chairman Visclosky. Are you aware of the results of the national lab study on proliferation resistance that is described below? Do you agree with the below conclusions (and if not, why not). The paper was summarized at the 8th International Conference on Facility Operations-Safeguards Interface, Portland, OR, March 30-April 4, 2008. The citation is: C. Bathke, R. Wallace, J. Ireland, M. Johnson (LANL); K. Bradley, B. Ebbinghaus, H. Manini (LLNL); B. Smith, A. Pritchard (PNNL), "An Assessment of the Proliferation Resistance of Materials in Advanced Fuel Cycles." The presentation number was LA-UR-08-1966.

One conclusion is that the attractiveness levels of mixtures of plutonium and neptunium-237 in any proportion are virtually indistinguishable to that of pure plutonium. Wouldn't that imply that there is no proliferation resistance benefit to any of the UREX+ alternatives that produce separated plutonium+neptunium?

Mr. Spurgeon. Regarding relative proliferation resistance, the GNEP Strategic Plan of January 2007 (<http://www.gnep.energy.gov/pdfs/gnepStrategicPlanJanuary2007.pdf>) states "...there is no technology 'silver bullet' that can be built into an enrichment plant or reprocessing plant that can prevent a country from diverting these commercial fuel cycle facilities to non-peaceful use. From the standpoint of resistance to rogue-state proliferation there are limits to the nonproliferation benefits offered by any of the advanced chemical separations technologies, which generally can be modified to produce plutonium if a nation is willing to withdraw from the Non-Proliferation Treaty (NPT) or violate its NPT or safeguards obligations."

The paper in question lends emphasis to the importance of applying the most advanced and effective safeguards and security measures at reprocessing plants, including at plants that employ alternatives to the PUREX technology. As the paper states, "Plutonium and neptunium have the same Attractiveness Level. Co-extracting neptunium with plutonium will not reduce the Attractiveness Level of the reprocessed end product." For a 50-50 mixture of plutonium and uranium, the "figure of merit" presented in that paper would be lower than for pure plutonium, which can be seen as a benefit, but the material would have to be managed in a Category I facility under domestic and international physical protection guidelines. It would also still be categorized as unirradiated direct use material and subject to the same international safeguards requirements as other unirradiated plutonium, including pure plutonium and fresh MOX.

Chairman Visclosky. A second conclusion is that plutonium-uranium mixtures would have the same attractiveness level (C, or "high-grade material") for all uranium concentrations between 20% and 82%. Given that the AREVA proposal for a COEX-based reprocessing plant would produce a 50-50 plutonium-uranium mixture, how can you justify claims that there would be any proliferation resistance benefit to this process?

Mr. Spurgeon. Material attractiveness is only one of several important factors that need to be addressed in order to make an assessment of the proliferation risks of diversion of material from, or misuse of, a reprocessing plant by the host state or theft of material by a terrorist group. Other factors include, inter alia: 1) how well the process involved and the facility design enhance the "safeguardability" of the plant and its material; and 2) whether there are features of the

technology (e.g., remote operation) that impede unauthorized access to the material. Because today's proliferation environment demands attention to both state and sub-state risks, it is important that the highest levels of physical protection and material control and accountancy be applied to future reprocessing plants and their products. The Department recognizes the risks associated with any form of reprocessing, which is why a critical goal of the GNEP approach to the future international fuel cycle is to avoid the further spread of reprocessing to countries that do not already have existing reprocessing facilities.

US SUPPORT TO SOUTH KOREA FOR PYROPROCESSING

Chairman Visclosky and Ranking Member Hobson. What is the status of U.S.-ROK cooperation on pyroprocessing technology?

Mr. Spurgeon. The United States and South Korea began cooperation on electrochemical technology (also known as pyro-processing) in 2005 with an I-NERI (International Nuclear Energy Research Initiative) project called "Development of Head-end Pyrochemical Reduction Process for Advanced Oxide Fuels". Five additional projects were started in 2006 and 2007 to cover various aspects of developing the process, to enhance the management of used fuel. The I-NERI projects are collaborations in which each organization funds its own activities out of existing program funding. The following pyroprocessing-related I-NERI projects are ongoing:

- Development of Head-end Pyrochemical Reduction Process for Advanced Oxide Fuels
- Development of Crosscutting Materials for the Electrochemical Reduction of Actinide Oxides Used in Advanced Fast Burner Reactors
- Separation of Fission Products from Molten LiCl-KCl Salt Used for Electrorefining of Metal Fuels
- Development of Advanced Voloxidation Process for Treatment of Used Fuel
- Development and Characterization of New High-Level Waste Forms for Achieving Waste Minimization from Pyroprocessing
- Development of Computational Models for Pyrochemical Electrorefiners of Nuclear Waste Transmutation Systems

Additional collaborations were started under the KAERI-10 program in 2006. This activity was initiated as a Work for Others project funded entirely by KAERI, the Korea Atomic Energy Research Institute. The initial scope covered assessing options for disposal of recovered uranium as a low-level waste. In 2007, an expanded KAERI-10 program was proposed as a Cooperative Research and Development Agreement (CRADA) between KAERI and Idaho National Laboratory. The objective of this CRADA is assessing at a laboratory-scale treatment of light-water reactor fuel to produce a fuel for transmutation. This agreement remains under consideration as DOE and the Department of State resolve policy issues regarding development of electrochemical processes.

U.S. SUPPORT TO SOUTH KOREA FOR PYROPROCESSING

Chairman Visclosky and Ranking Member Hobson. How much money has been spent to date and on what projects?

Mr. Spurgeon. To date the U.S. has provided about \$38 million to fund its portions of 32 I-NERI projects in cooperation with South Korea since the first project was begun in 2002. The projects relate to various U.S. programs including the Advanced Fuel Cycle Initiative, Generation IV, and Nuclear Hydrogen Initiative. Each country funds its own activities and researchers exchange information and prepare reports. All projects are approved and reviewed annually by DOE and South Korean government officials. The only money spent to date by DOE on collaborations with South Korea related to electrochemical processes, which only include activities that would have been funded by DOE regardless of whether or not it was a collaboration with South Korea, has been less than \$5M; this includes planned work through the end of FY2008. A complete list of projects with South Korea is given below.

Project #	Project Title	R&D Field
2002-008-K	Fundamentals of Melt-Water Interfacial Transport Phenomena: Improved Understanding for Innovative Safety Technologies in ALWRs	Gen IV (SCWR)
2002-010-K	The Numerical Nuclear Reactor for High-Fidelity Integrated Simulation of Neutronic, Thermal-Hydraulic, and Thermo-Mechanical Phenomena	Gen IV (Des. & Eval.)
2002-016-K	Evaluation of Materials for Supercritical Water-cooled Reactors	Gen IV (Materials)
2002-020-K	Development of Enhanced Reactor Operation Strategy through Improved Sensing and Control at Nuclear Power Plants	Gen IV (Des. & Eval.)
2002-021-K	Condition Monitoring through Advanced Sensor and Computational Technology	Gen IV (Des. & Eval.)
2002-022-K (I)	In-Vessel Retention Investigations	Gen IV (SCWR)

2002-022-K (II)	In-Vessel Retention Investigations	Gen IV (SCWR)
2003-002-K	Passive Safety Optimization in Liquid Sodium-Cooled Reactors	Gen IV (SFR)
2003-008-K	Developing and Evaluating Candidate Materials for Generation IV Supercritical Water	Gen IV (SCWR)
2003-013-K	Development of Safety Analysis Codes and Experimental Validation for a Very High Temperature Gas-Cooled Reactor	Gen IV (Des. & Eval.)
2003-020-K	Advanced Corrosion-Resistant Zirconium Alloys for High Burnup and Generation IV Applications	Gen IV (Materials)
2003-024-K	Development of Structural Materials to Enable the Electrochemical Reduction of Spent Oxide Nuclear Fuel in a Molten Salt Electrolyte	Gen IV (Materials)
2004-001-K	Screening of Gas-Cooled Reactor Thermal-Hydraulic and Safety Analysis Tools and Experiment Database	Gen IV (VHTR)
2004-002-K	Investigation of Heat Transfer in Supercritical Fluids for Application to the Generation IV Supercritical Water Cooled Reactor (SCWR)	Gen IV (SCWR)
2004-003-K	Development of Advanced Suite of Deterministic Codes for VHTR Physics Analysis	Gen IV (VHTR)
2004-004-K	Development of Voloxidation Process for Treatment of LWR Used fuel	AFCI
2004-005-K	Development and Test of Cladding Materials for Lead-alloy Cooled Transmutation Reactors	AFCI
2004-006-K	Alternative Methods for Treatment of TRISO Fuels	AFCI
2005-001-K	Supercritical Carbon Dioxide Brayton Cycle Energy Conversion	Gen IV (Energy Conversion / LFR)

2005-003-K	Improvement of the decay heat removal system for VHTR(RCCS)	Gen IV (VHTR Methods Development and Validation)
2005-004-K	Development of Head-end Pyrochemical Reduction Process for Advanced Oxide Fuels	AFCI (Separations)
2006-001-K	Core Design Studies for TRU Transmutation in a Sodium Cooled Fast Reactor	GENEP/AFCR&D (Transmutation/ABTR)
2006-002-K	Separation of Fission Products from Molten LiCl-KCl Salt used for Electrorefining of Metal Fuels	AFCR&D (Pyroprocessing)
2006-003-K	Development of Crosscutting Materials for the Electrochemical Reduction of Actinide Oxides used in Advanced Fast Burner Reactors	AFCR&D (Pyroprocessing, Crosscutting Materials)
2006-006-K	Development of Environment and Irradiation effects of High-Temperature Materials	Gen IV (Materials)
2007-001-K	Experimental Validation of Stratified Flow Phenomena, Graphite Oxidation, and Mitigation Strategies of Air Ingress Accidents	Gen IV (NGNP)
2007-002-K	Development of Advanced Voloxidation Process for Treatment of Used fuel	GENEP/AFCR&D (Voloxidation)
2007-003-K	Performance Evaluation of TRU-Bearing Metal Fuel for SFR to Achieve High Burnup Goal	GENEP/AFCR&D (Transmutation Fuels)
2007-004-K	Development and Characterization of New High-Level Waste Forms for Achieving Waste Minimization from Pyroprocessing	GENEP/AFCR&D (Pyroprocessing)
2007-005-K	Development of Technology for Viable International Deployment of Small Sodium-Cooled Fast Reactors	Gen IV (SFR System Design & Evaluation and Components)
2007-006-K	Development of Computational Models for Pyrochemical Electrorefiners of Nuclear Waste Transmutation Systems	GENEP/AFCR&D (Pyroprocessing)

2007-007-K	Sodium-Cooled Fast Reactor Structural Design for High Temperatures and Long Core Lifetimes/Refueling Intervals	Gen IV (SFR including ABR)
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US SUPPORT TO SOUTH KOREA FOR PYROPROCESSING

Chairman Visclosky. Will the U.S. grant approval for the ROK to process U.S.-origin spent fuel in the Advanced Conditioning Process facility? If so, how would this be consistent with President Bush's policy to restrict the spread of sensitive fuel cycle facilities?

Mr. Spurgeon. Mr. Spurgeon. Under the U.S.-ROK Agreement for Cooperation in the Peaceful Uses of Nuclear Energy, the ROK may not process U.S.-origin spent fuel or special nuclear material in this facility until the two countries have made a Joint Determination of safeguardability. Such a Joint Determination would take into account the existence of a safeguards approach accepted by the International Atomic Energy Agency as well as other factors, such as the specific activities planned at the facility, the President's policy on enrichment and reprocessing technology transfers. The Department and other U.S. agencies are reviewing issues associated with international cooperation on electrochemical processing of spent fuel to ensure consistency with long-standing U.S. nonproliferation policies and objectives.

NRC LICENSE OF GNEP FACILITIES

Chairman Visclosky and Ranking Member Hobson. Will the Department voluntarily commit to NRC licensing of GNEP facilities that would not automatically be subject to NRC licensing under the Atomic Energy Act? If not, why not?

Mr. Spurgeon. While the Department may be authorized under the Atomic Energy Act to regulate and oversee the type of facilities currently envisioned for GNEP, the Department believes NRC licensing of both the Consolidated Fuel Treatment Center (CFTC) and an Advanced Burner Reactor (ABR) would be appropriate if the CFTC would operate as a commercial facility and the ABR would be used to demonstrate the suitability of the reactor for commercial application.

The Advanced Fuel Cycle Facility (AFCF) is the only instance of a currently-planned GNEP facility for which Nuclear Regulatory Commission licensing would not apply. As currently envisioned, the AFCF would be a DOE funded and operated research facility and would not fall under NRC's jurisdiction.

NEPA AND THE GNEP EIS

Chairman Visclosky and Ranking Member Hobson. How do you intend to complete the NEPA process for the GNEP Programmatic Environmental Impact Statement in time for a Secretarial decision this summer, given that the draft PEIS has not yet been released for public comment?

Mr. Spurgeon. As I stated in my response to a question from Mr. Visclosky, we do not expect a June 2008 Record of Decision since the NEPA Programmatic Environmental Impact Statement is not yet complete. The Department is currently targeting a completion of a Final Programmatic EIS in late 2008 and a NEPA Record of Decision for GNEP in early 2009. A decision will not be made until the NEPA process has been completed.

RATEPAYER FEES

Chairman Visclosky and Ranking Member Hobson. How large is the ratepayer fee that would have to be assessed by the New Government Entity to make the GNEP program self-supporting?

Mr. Spurgeon: However the Department has not officially formulated a position on a governmental corporation, and continues to evaluate this matter and review input from industry. In order to engage industry experts in the conceptual design of the initial nuclear fuel recycling center and advanced recycling reactors as part of GNEP, the Department issued a Funding Opportunity Announcement (FOA) last year to acquire conceptual design studies, technology roadmaps, and business plans essential to closing the fuel cycle and achieving the GNEP vision. In particular, the business plans will address how the market may facilitate DOE plans to develop and commercialize the advanced fuel cycle technologies and facilities.

Industry indicated support for the creation of a new government corporation with access to the nuclear waste fund to manage used nuclear fuel, including recycling and disposal.

TRANSFER OF GNEP TECHNOLOGIES

Chairman Visclosky and Ranking Member Hobson. Please list the GNEP member states to whom DOE would oppose transfer of advanced reprocessing technologies.

Mr. Spurgeon. The U.S. policy is to prevent the transfer of enrichment and reprocessing equipment and technologies to any state that did not already possess full-scale, functioning enrichment and reprocessing plants as of December 31, 2003. This position has been advanced in the Nuclear Suppliers Group, the G-8 and other fora and is well known.

QUESTIONS FROM REPRESENTATIVE CALVERT

PARALLEL PROGRAMS

Congressman Calvert. Do you believe that, in parallel to developing advanced fuel cycle technologies, we should continue to move ahead with the licensing of the Yucca Mountain repository? Please explain the reasons for your answer.

Mr. Sproat. Yes. As I've testified at a number of hearings, the Nation will need the Yucca Mountain repository regardless of any future developments in closing the nuclear fuel cycle. There are already significant quantities of defense high-level radioactive waste as well as DOE-owned and Naval spent nuclear fuel that are not planned for reprocessing which requires permanent geologic disposal. Additionally, by 2010 the current fleet of commercial nuclear power reactors will have generated about 63,000 metric tons of heavy metal (MTHM) of spent nuclear fuel, and will have most likely generated tens of thousands more MTHM of spent nuclear fuel by the earliest reasonable date to expect deployment of recycling technologies. Given the current uncertainties associated with the timeframes, potential capacities, and technological development needs of, and committed private industry support for, the facilities necessary to close the fuel cycle, it would not be reasonable to defer or delay current activities for the planning and development of the Yucca Mountain repository for the disposal of commercial spent fuel. Moreover, in any event, based upon the experience of the European recycling programs, some amount of this inventory will prove not suitable for recycling and will require direct disposal. So, while I believe it is important to pursue technologies that can close the back end of the nuclear fuel cycle, I also believe that we need to move forward with the licensing and development of the Yucca Mountain repository.

Mr. Calvert. When the GNEP initiative was first announced, DOE had some fairly ambitious plans for the development of commercial scale advanced recycling facilities. Is it correct to say that these plans have now been scaled back somewhat and that the Department will concentrate first on the development of engineering scale facilities? If so, can you comment on how DOE reached this decision and what it means for the time frame over which you would expect to reach the point at which commercial scale recycling capability might be available?

Mr. Spurgeon: The Department has not made any decisions on the types of technologies or size of facilities and is currently evaluating a variety of options. Industry estimates that technologies exist that do not separate pure plutonium and could possibly be deployed in the 2020-2025 timeframe producing fuel for existing light water reactors (LWRs).

The Department will continue to evaluate data provided by its research and development programs and industry deliverables for recycling facilities. DOE will also continue to proceed with its intent to issue a PEIS which will assess the broad implications of the GNEP Program for these proposed facilities and the environmental impacts brought about by implementing the proposed actions of the Program and its alternatives. A decision will not be made until the NEPA process has been completed.

Mr. Calvert. What impact has the recent 2008 National Academy of Sciences Review of the Office Nuclear Energy had on how your office operates today?

Mr. Spurgeon. The National Research Council's report affirmed the majority of the Department of Energy's (DOE) priorities for research and development for nuclear energy – including our highest priority program, the Nuclear Power 2010 program, and our national nuclear energy research laboratory, the Idaho National Laboratory. We are working to incorporate many of the report's recommendations in how the Office of Nuclear Energy plans and executes our R&D programs.

Mr. Calvert. What follow up program are you planning after Nuclear Power 2010? Would you provide for the record a summary of the new Idaho National Laboratory -Electric Power Research Institute, plan for light water reactor R&D?

Mr. Spurgeon. Program plans after the closure of NP 2010 have not been determined. Future program plans will be evaluated and determined through the development of future Budgets.

In November 2007, the U.S. Department of Energy's Idaho National Laboratory (INL) and the Electric Power Research Institute (EPRI) jointly developed and released a strategic plan for light water reactor research and development. This plan, *INL/Nuclear Power Industry Strategic Plan for Light Water Reactor Research and Development*, was developed by an industry-laboratory team under the auspices of INL's Utility Advisory Board and EPRI's Nuclear Power Council.

The plan outlines two strategies for nuclear energy to play a substantial role in meeting future U.S. energy needs. The first strategy is to efficiently construct and operate dozens of new nuclear power plants, starting in the next several years. The second is to maximize the contribution from our existing nuclear fleet by extending the operating licenses.

QUESTIONS FROM REPRESENTATIVE SIMPSON

Congressman Simpson. Mr. Spurgeon-as you know, I have been a strong proponent of the Next Generation Nuclear Plant which would produce both electricity and process heat. The project was authorized in the energy bill and has received almost \$200 million from this Congress over the past 4 few years -including \$115million last year alone. While the GNEP program is really focused on dealing with the legacy left by existing reactor technologies, the NOW program is focused on the future of nuclear energy and the creation of process heat for a number of applications in our economy. What are the DOE'S plans for spending the funding provided last year and how committed are you to moving forward on this important project? How is the funding being allocated?

Would you please provide the Subcommittee with a detailed list of how the funds are being spent?

Mr. Spurgeon. The Department of Energy is committed to making the Next Generation Nuclear Plant project (NGNP) a success and will ensure the project includes a cost-shared public-private partnership. The NGNP initiative is within the Department's Generation IV Nuclear Energy Systems program. During the first quarter of fiscal year (FY) 2008, while under the continuing resolution, the program allocated \$1.3 million to non-NGNP and non-Very High Temperature Reactor Generation IV systems. Once the FY 2008 appropriation for the program was finalized in December 2007, we allocated \$38 million to establish a reference conceptual design and baseline cost estimate for the NGNP, \$26 million to advancing critical-path enabling gas reactor technology, \$25.8 million to establish a licensing strategy and pre-application program with the Nuclear Regulatory Commission, \$8.6 million for work with Russia on gas reactors, and \$6.7 million for Deep Burn studies for gas reactors. Funding was also allocated for Congressionally Directed Projects (\$3.9 million) on technology transfer and crystal diamond optical switches, technical support to the Generation IV International Forum (\$1.3 million), cost and schedule earned value systems (\$820,000), and an overall budget rescission (\$1.1 million). Approximately \$2.3 million will be allocated as needed to address emerging requirements or research opportunities in the Generation IV program and to assure program continuity as we move into FY 2009.

NATIONAL SPENT FUEL PROGRAM AT IDAHO NATIONAL LAB

Congressman Simpson. Mr. Sproat, I know you have said even if the US pursues recycling, a permanent repository is needed for defense spent nuclear fuel and high level waste. With the exception of Navy fuel, the National Spent Nuclear Fuel program at the Idaho National Lab has prepared for your office the licensing documentation for defense nuclear fuel and high level waste. Does the EM decision not to request funds for this program in FY2009 jeopardize the ability to defend the license and ultimately dispose of the material?

Mr. Sproat. As we proceed through the licensing process for the Yucca Mountain repository, we will be looking to the Office of Environmental Management (EM) for technical support to respond to any inquiries and requests for information from the NRC concerning defense spent nuclear fuel and high-level waste. EM recognizes the importance of the unique capabilities of the National Spent Nuclear Fuel program in supporting the license application.

TRANSPORTATION SECURITY

Congressman Simpson. Mr. Sproat, do you have any plans for security of the shipments of commercial SNF to Yucca Mountain?

Mr. Sproat. An effective security plan will be an integral feature of the transportation program to ensure the physical protection of spent nuclear fuel in transit to the Yucca Mountain repository. The foundation of the Office of Civilian Radioactive Waste Management's (OCRWM) national transportation system is the integration of four key security programs: physical security systems; secure transit operations; information security; and personnel security. While OCRWM is preparing its integrated program plans, requirements, procedures, and protocols to support an operational transportation system, it is actively collaborating with the Naval Nuclear Propulsion Program, the Departments of Homeland Security and Transportation, the Nuclear Regulatory Commission, and international agencies and working groups on sabotage and security matters. OCRWM is also coordinating with state, local and tribal transportation, emergency response, and law enforcement organizations.

Congressman Simpson. Mr. Sproat, have you considered adopting the US Navy's "Escort Service Plan", used for Naval SNF for commercial SNF shipments?

Mr. Sproat. OCRWM is actively collaborating with security subject matter experts in industry and government, as well as relying on lessons learned from the 50-year record of spent nuclear fuel transportation, to implement a state-of-the-art security program in all transportation operations. Leveraging the experience of the Naval Nuclear Propulsion Program (NNPP) in shipping spent nuclear fuel is an OCRWM priority. The OCRWM and the NNPP are jointly designing, engineering and acquiring a state-of-the-art escort railcar to accompany shipments of spent nuclear fuel. This partnership maximizes cross-program technical, operational and security expertise. The Navy's shipment escorts are an integral part of the developmental process, and OCRWM personnel are observers during NNPP emergency response exercises conducted with state, tribal and local governments.

Attachment 4

A. J. R. 15

ASSEMBLY JOINT RESOLUTION NO. 15—ASSEMBLYMEN
MANN, ROBINSON, PRICE, HICKEY, MAY, GETTO,
JACOBSEN, HAYES, MOODY, CHANEY, SCHOFIELD,
BENKOVICH, DREYER, HOWARD, HEANEY, BENNETT,
CHRISTENSEN, JEFFREY, VERGIELS, SENA AND BROOK-
MAN

FEBRUARY 26, 1975

Referred to Concurrent Committees on Environment and
Public Resources and Commerce

SUMMARY—Urges the Energy Research and Development Administration to
choose the Nevada Test Site for disposal of nuclear wastes and for solar energy
research under the Solar Energy Research, Development and Demonstration
Act of 1974. (BDR 1030)

EXPLANATION—Matter in *italics* is new; matter in brackets [] is
material to be omitted.

ASSEMBLY JOINT RESOLUTION—Urging the Energy Research and Develop-
ment Administration to choose the Nevada Test Site for disposal of nuclear
wastes and for solar energy research under the Solar Energy Research, Devel-
opment and Demonstration Act of 1974.

- 1 WHEREAS, The now supplanted Atomic Energy Commission has, over
- 2 the years, demonstrated an outstanding concern for nuclear safety and
- 3 has compiled, at the Nevada Test Site, an equally outstanding safety
- 4 record; and
- 5 WHEREAS, The people of Southern Nevada have confidence in the
- 6 safety record of the Nevada Test Site and in the ability of the staff of
- 7 the site to maintain safety in the handling of nuclear materials; and
- 8 WHEREAS, The unemployment rate in Clark County, Nevada, is 20.7
- 9 percent higher than the disturbingly high national unemployment rate;
- 10 and
- 11 WHEREAS, The people and the leaders in many states being considered
- 12 as sites for nuclear disposal have serious anxieties and doubts about pro-
- 13 viding disposal sites; and
- 14 WHEREAS, The existing facilities and the years of expertise in nuclear
- 15 material handling at the Nevada Test Site are a tremendous existing
- 16 resource; and
- 17 WHEREAS, Southern Nevada also offers an excellent environment in
- 18 which to explore the potential of solar energy; and

1 WHEREAS, National energy independence and a clean environment are
2 dependent upon tapping nonfossil fuel sources of energy for heating, cool-
3 ing and electricity; and

4 WHEREAS, The existing facilities of the Nevada Test Site and its sup-
5 port infrastructure are available and well suited to scientific research in
6 addition to nuclear projects; and

7 WHEREAS, Nuclear waste disposal and solar energy research can both
8 be carried out at the Nevada Test Site with minimal capital investment
9 relative to other locations; now, therefore, be it

10 *Resolved by the Assembly and the Senate of the State of Nevada,*
11 *jointly,* That the legislature of the State of Nevada strongly urges the
12 Energy Research and Development Administration to choose the Nevada
13 Test Site for the disposal of nuclear wastes; and be it further

14 *Resolved,* That under the provisions of the Solar Energy Research,
15 Development and Demonstration Act of 1974 the Energy Research and
16 Development Administration utilize the extensive resources and facilities
17 of the Nevada Test Site to explore the potential uses of solar energy; and
18 be it further

19 *Resolved,* That copies of this resolution be prepared and transmitted
20 by the legislative counsel to the administrator of the Energy Research and
21 Development Administration, to the assistant administrators for nuclear
22 energy and for solar, geothermal and advanced energy systems and to all
23 members of Nevada's congressional delegation; and be it further

24 *Resolved,* That this act shall become effective upon passage and
25 approval.



Attachment B



National Nuclear Security Administration
Sandia Site Office
Albuquerque, NM 87185-5400



JUL 07 2009

MEMORANDUM FOR: J. Russell Dyer, Chief Scientist, Office of Civilian Radioactive
Waste Management, Department of Energy, RW-60

FROM: Patty Wagner, Contracting Officer/Manager *Patty Wagner*

SUBJECT: Appointment of Contracting Officer Representative for
Contract No. DE-AC04-94AL85000 with Sandia Corporation

Pursuant to and in accordance with the National Nuclear Security Administration Policy Letter BOP.003.0302, Appointment of Contracting Officer's Representatives (COR) for NNSA Management and Operating Contracts, you are hereby appointed to act as the COR in relation to the services provided to the government by the contractor in performance of work under the subject contract as described below.

Your COR appointment authority is limited to:

Initiating timely work authorizations and performing oversight activities for all elements of the post-closure science related work for the Yucca Mountain Project.

NEITHER THIS APPOINTMENT NOR ANY COR RESPONSIBILITIES MAY BE REDELEGATED TO OTHERS.

The terms and conditions of this appointment are as follows:

1. Perform contract oversight activities and other functions under your purview associated with performance not involving a change in scope, cost, terms, or conditions of the contract. Any need for corrective action identified by your oversight or other performance awareness shall be provided to and discussed with the Site Office Manager. The Site Office Manager will issue the corrective action request to the contractor. In this regard, you should ensure that you are familiar with the requirements of the contract and your functional responsibilities relative to the contractual requirements. The contract may be found at http://www.doc.gov/mocd/SN1_M202.htm.
2. Ensure that the contractor complies with all requirements of the work defined in the scope of work, including reports, documentation, data, work products, milestone schedules, and deliverables. In this connection, you shall:
 - a. Review and provide all work authorization (WAs) documents to the Sandia Site Office Contracting Officer (SSO-CO) for approval.

J. Russell Dyer

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JUL 07 2006

- b. Inform the SSO-CO, in writing, of any performance failure by the contractor.
- c. Inform the SSO-CO if you foresee that the contract or any WA will not be completed according to schedule, and/or estimated cost. Your written notice should include your recommendations for resolving the schedule problem, and/or revising the estimated cost.
- d. Notify the SSO-CO of competing requirements or priorities including, but not limited to, those requirements affecting safety-related support to the nuclear weapons complex.
- e. Ensure that the government meets its contractual obligations to the contractor. This includes, but is not limited to, furnishing government property and services specified in the contract and providing timely government comment on or approval of contract deliverables as may be required by the contract.
- f. Prepare written performance direction for signature by the SSO-CO. Any disagreement in the performance direction that the contractor brings to your attention shall be brought to the SSO-CO for resolution.
- g. Assist the contractor in interpreting the requirements of the contract. You are to immediately report to the SSO-CO, in writing, all issues that cannot be resolved without increasing costs or changing the contract, and any issue that cannot be mutually agreed to so that the SSO-CO can take action to resolve. Such reports must include the facts pertinent to the issue and the recommended action.
- h. Review, inspect, and recommend acceptance or rejection to the SSO-CO of all authorized deliverables within the scope of your appointment. You are to immediately report to the SSO-CO any unauthorized deliverables that are outside your scope of appointment so that the SSO-CO can take appropriate action.
- i. Assist the SSO-CO in the development of the annual Performance Evaluation Plan by providing timely performance expectations.
- j. Provide timely evaluation input to the SSO-CO for assessing contractor performance in the development of the Performance Evaluation Report in every phase. This includes obtaining, coordinating, and consolidating feedback and input from all site offices, internal personnel, and other federal organizations, as applicable.
- k. Inform the SSO-CO of any potential or evidence of real or perceived organizational conflicts of interest matters or employee ethics or integrity issues.
- l. Provide a written statement to the SSO-CO attesting to the contractor's completion of performance, delivery, inspection, and your recommendation for acceptance by the SSO-CO of all goods and services. Provide any required closeout information to the SSO-CO and make disposition of all records and

J. Russell Dyer

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JUL 9 7 2006

documents pertinent to the administration of the contract which you retained in your capacity as COR during the contract performance period

- m. Prepare a written record of meetings, trips, and telephone conversations relating to your COR actions under the subject contract. Each record and all correspondence relating to your appointment for this contract should cite the contract number, date, time, and location, as necessary to be a complete record. It is requested that a copy of records or correspondence that you generate or receive relating to the contract be accessible to or furnished to the SSO-CO, upon request, and other interested parties having a need to know. The utmost care must be given to restrictions regarding proprietary data and classified and business-sensitive information.

In performing these responsibilities, you are not authorized to issue performance direction to the contractor, re-delegate any COR authority and responsibility to others or negotiate terms or make any agreements or commitments with the contractor that involve a change in the scope, price/cost, terms, or conditions of the contract. Only the SSO-CO is authorized to issue performance direction to the contractor, modify any term or condition of the contract, waive any requirement of the contract, or approve costs incurred or make determinations of cost allowability.

This COR appointment may be revoked at anytime for failure to perform within the appointment limitations and terms and conditions detailed in paragraphs 1 and 2 above.

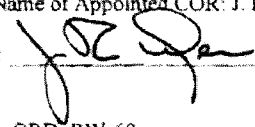
This appointment and its authority shall become effective upon your acceptance and shall remain in effect as long as you are assigned to the contract, or this delegation is rescinded in writing, or the contract is completed. You are to immediately notify the SSO-CO, in writing, of any reassignment from this contract or termination of employment from the Department.

Please acknowledge acceptance of the COR appointment and return one copy to JoAnn Wright, SSO Contract Administration and Business Management Office.

ACCEPTANCE OF APPOINTMENT

I hereby accept the responsibility to perform the functions delegated herein to the best of my ability. I understand and will abide by the principles of ethical conduct for government officers and employees.

Typed or Printed Name of Appointed COR: J. RUSSELL DYER

Signature of COR:  Date: 18 July, 2006

cc:

John Arthur, DOE, ORD, RW-60
Birdie Ray-Hamilton, DOE, ORD, RW-621
Gary Zura, SNL Org. 10730, MS-0180
Steve Bauck, SNL Org. 10730, MS-0180
NNSA Service Center/Office of Business Services/MSS
Larry Adcock, NNSA, SSO, S&T

Attachment C



Department of Energy
Washington, DC 20585

2005-011268

December 23, 2005

MEMORANDUM FOR THE SECRETARY

THROUGH:

THE DEPUTY SECRETARY

UNDER SECRETARY FOR ENERGY,
SCIENCE AND ENVIRONMENT

UNDER SECRETARY FOR NUCLEAR SECURITY/
ADMINISTRATOR FOR NATIONAL NUCLEAR
SECURITY ADMINISTRATION

FROM:

PAUL M. GOLAN
ACTING DIRECTOR
OFFICE OF CIVILIAN RADIOACTIVE
WASTE MANAGEMENT

SUBJECT:

INFORMATION: Announcement of intent to: (1) designate Sandia National Laboratories (SNL) as the lead laboratory for science-related work for the Yucca Mountain Project and (2) descope Management and Operating (M&O) contract with Bechtel SAIC Company, LLC, to eliminate its responsibilities for those activities to be undertaken by SNL.

BACKGROUND:

The Yucca Mountain Project involves the integration of cutting-edge science to support projections of repository performance over tens of thousands of years. During the evaluation phase of the site, the M&O contractor was assigned responsibility for this task.

With completion of site characterization, the Project shifted its focus toward preparation of a license application for submission to the Nuclear Regulatory Commission (NRC). The license application will be divided into several parts. The two primary parts will focus on: (1) a performance assessment of the natural and engineered barriers during the postclosure period and the supporting science and (2) the science and engineering efforts supporting pre-closure design and operations.

DISCUSSION:

In preparing for the demands of the NRC license environment, the Project has found that the current management and integration approach needs to be revised to meet the challenges ahead.



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Therefore, we are implementing a revised approach for completing work needed to submit a supportable license application by separating the existing contractor responsibilities for completing the repository science work to support the postclosure performance assessment from the pre-closure and design efforts. This approach aligns responsibilities more clearly within the competencies of the Project participants and more effectively leverages the capabilities and corporate knowledge of the Department's national laboratories' experience with repository science issues.

Specifically, we intend to designate SNL as the lead laboratory to manage and integrate scientific investigations and performance assessment for the postclosure. These activities include delivering the technical products supporting demonstration of the postclosure performance assessment and performance conformation. The Office of Civilian Radioactive Waste Management (OCRWM) will administer these activities through the National Nuclear Security Administration's work authorization process by issuing to the Sandia Site Office (SSO) a Statement of Work, a Work Authorization document, and by placing the funding in the Department of Energy's financial systems. SSO will review and authorize the work through the SNL contract.

Consistent with the intent of a Federally Funded Research and Development Contract to provide the Department with special long-term development services, we believe SNL is best positioned to serve as the Project's lead national laboratory. SNL has a unique corporate experience with regard to the challenges of managing scientific investigations in support of a federally licensed geologic disposal facility, having addressed such issues while serving in the capacity of the Scientific Advisor for the Waste Isolation Pilot Plant (WIPP) for over two decades. Attachment 1 provides an overview of the role and responsibilities of SNL as the lead laboratory.

The revised approach builds upon the Department's successful experience with WIPP which used a dedicated M&O contractor for all pre-closure work combined with a single national laboratory responsible for the management and integration of the post closure science work.

The implementation of this approach is not expected to result in increased costs. The transition costs and increased laboratory role are offset, in part, by eliminating a 30 percent overhead charge now imposed by the M&O contractor. The

M&O contract will be modified to delete the appropriate work scope and adjust other terms and conditions as required to reflect this change. It should be noted that the M&O contract base period of performance expires in March 2006, and the Department is preparing to exercise a one-year option period while simultaneously preparing a competitive procurement. The contract extension and new procurement will exclude the lead national laboratory scope of work.

OCRWM anticipates making a public announcement on its intent to designate SNL as the lead laboratory before the end of 2005. Actual designation is dependent on completion of a Scope of Work (Attachment 2) and initial task orders. These documents need to set forth clearly the roles and responsibilities of SNL and the mechanism by which OCRWM will manage the work performed for the Project by SNL. Among other things, these documents need to address quality assurance requirements in a manner acceptable to NRC.

SENSITIVITIES:

The current M&O contract will be descoped to reflect the work to be performed by SNL. Consequently, the M&O contract funding will be reduced by approximately \$65-\$75 million a year. In addition, the M&O contractor will likely be concerned about its ability to meet those contractual obligations that will be dependent on scientific work for which SNL is responsible. While concerns from other participating national laboratories are not expected to be significant, some are concerned over the continued level of funding through this new arrangement.

POLICY IMPACT:

None

2 Attachments

Concurrences:

General Counsel/ Fygi 12/22/05
 Science/Orbach 11/9/05
 Management/Kolb for Carnes 11/14/05
 Congressional Affairs/Nichols 12/23/05
 National Nuclear Security Administration/Detwiler 12/22/05
 Sandia Site Office/Patty Wagner 12/22/05

Roles and Responsibilities of the Lead Laboratory

As the lead laboratory for the Yucca Mountain repository program, Sandia Corporation (Sandia) will provide:

- strong central leadership for the repository science program while maintaining access to the best-in-class expertise from national laboratories, contractors and consultants, and universities;
- cost-effective management of post closure science by focusing work on those activities that are most important to performance;
- technical credibility with the regulator, scientific community, and stakeholders; and
- assurance that scientific work is conducted in accordance with all applicable Nuclear Regulatory Commission (NRC) requirements, including quality assurance requirements.

As the lead laboratory, Sandia will provide management and integration services for:

- scientific programs including defining work activities and priorities related to repository science needs and creating a responsive performance confirmation program;
- providing the portions of the license application that set forth the scientific work for which Sandia is responsible in a form that permits its incorporation into the license application without further substantive work;
- providing information, analyses, documents, expert witnesses, and other scientific and technical support needed for the adequate and successful legal defense of the license application during the NRC licensing process and any related litigation;
- allocation of funding and the assignment of technical tasks to selected supporting organizations (e.g., other national laboratories, subcontractors, Federal agencies, universities, expert panels); and
- assuring technical integrity and sufficiency and product quality of the deliverables and other work supporting the licensing technical basis, and representing the technical basis to regulatory, stakeholder, and other constituencies.

In performing its roles and responsibilities as the lead laboratory, Sandia will work closely with the Office of Civilian Radioactive Waste Management to ensure achievement of programmatic technical objectives and with the Office of the General Counsel and its licensing support contractor (Hunton and Williams) to ensure a sound scientific and technical basis for the legal defense of the license application in the NRC licensing proceeding and any related litigation.

SCOPE OF WORK

LICENSING SUPPORT

Sandia Corporation (hereafter "Sandia") will manage and integrate the scientific and technical work necessary to support the preparation of, maintenance of, and updates to the post-closure portions of the license application (LA) for the geologic repository. In particular, Sandia will be responsible for: post-closure scientific programs including defining work activities and priorities related to repository science needs and creating a responsible performance confirmation program; the portions of the LA that set forth the scientific work for which Sandia is responsible in a form that permits its incorporation into the LA without further substantive work; providing information, analyses, documents, expert witnesses, and other scientific and technical support needed for the adequate and successful legal defense of the LA during the NRC licensing process and any related litigation; compliance with applicable document production and retention requirements, including those requirements related to the Licensing Support Network (LSN); allocation of funding and the assignment of technical tasks to selected supporting organizations (e.g., other national laboratories, subcontractors, Federal agencies, universities, expert panels); and assuring technical integrity and sufficiency and product quality of the deliverables and other work supporting the licensing technical basis, and representing the technical basis to regulatory, stakeholder, and other constituencies.

Sandia shall be responsible for integrating the scientific and technical tasks related to the post-closure performance assessment.

Sandia shall work with the DOE and other project participants to determine the appropriate scope of scientific and technical post-closure work to support project needs. Sandia shall be responsible for designing and preparing the appropriate analyses, conducting postclosure total system performance assessments (TSPAs) to support the repository license application, the technical aspects of construction authorization amendments, if any, and the license application amendment related technical issues needed to obtain a license to receive and possess nuclear material.

Sandia shall maintain a postclosure safety case sufficient to provide an adequate technical basis for assessing the safety of the repository system and explaining the technical performance roles of the natural and engineered systems. Sandia shall be capable of accommodating new information and periodically performing a TSPA update. The postclosure safety case must address the technical ability of the repository system to meet applicable NRC post-closure regulatory standards and to protect the health and safety of the public.

Sandia must be capable of accommodating new scientific and technical information and adjust analyses to changing Program constraints.

Sandia will supply information as requested to support updates of the Project Environmental Impact Statement (EIS)/Supplemental EIS, if needed, in accordance with all applicable requirements. Sandia will perform the work scope associated with the review of proposed Program and Project changes that could affect the environmental impacts described in the *Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (2002) and subsequent environmental baseline.

Sandia shall use their scientific and technical expertise to perform the work that includes support for preparation, approval, and submittal to NRC of subsequent updates to the post-closure portions of the LA, including an update of the license to receive and possess waste and subsequent updates as post-receive and possess construction, operations, and performance confirmation may require.

Sandia shall perform scientific and technical work that includes support for preparation of post-closure portions of the update to the LA that precedes receipt of the license to receive and possess high-level radioactive waste (HLW). It also includes support for preparation of the LA updates after NRC issues the license to receive and possess waste until the final update for closure of the facility.

Sandia shall perform the work that includes enhancement and update of the TSPA-LA model, the validation and documentation of the model, the analyses that will be completed using those models and submodels, the documentation presenting the technical results and scientific conclusions in support of the update of the LA for receive and possess, and subsequent updates to the license for the operational life of the repository.

Sandia will provide technical input for responses to requests for additional information, open items, and confirmatory items, and provide support at technical meetings with NRC staff and the Advisory Committee on Nuclear Waste (ACNW) to resolve issues during review. Sandia will support meetings and resolve issues with the Nuclear Waste Technical Review Board (NWTRB).

Sandia shall perform all work in accordance with a quality assurance program that meets requirements defined in the OCRWM Quality Assurance Requirements Document (QARD), as discussed below.

Sandia and the Department of Energy (DOE) have a common interest in NRC's granting, in a timely manner, authorization to construct a repository at Yucca Mountain and permission to operate the repository. Accordingly, Sandia shall perform all work in a manner that provides a sound and adequate scientific and technical basis for the legal defense of the license application in the NRC licensing proceeding and any related litigation. Among other things, Sandia shall, as needed and requested, make expert witnesses available, organize information and analyses in a manner consistent with and supportive of litigation strategy, provide scientific and technical responses to information requests and assistance in the preparation of motions, responses to motions, testimony, cross-examination and other litigation material in a timely manner that permits compliance with NRC schedules, and comply with LSN and other

discovery and record retention requirements. In this regard, Sandia will work closely with and provide adequate and timely scientific and technical assistance in support of the efforts of the Office of the General Counsel and its licensing support contractor (Hunton and Williams) who have primary responsibility for the legal defense of the license application.

SAFETY ANALYSES

Sandia will conduct a technically based postclosure safety analyses for the Yucca Mountain Project. This includes collection of data, conducting analyses, and developing the TSPA and performance confirmation program and associated documents. It also includes support for the writing, updating and supporting the development of the technical safety analyses related portions of the LA general information section and Safety Analysis Report (SAR), and their subsequent updates, as needed.

SAFETY ANALYSES INTEGRATION

Sandia will manage technical activities, provide coordination of technical analyses, and integration of postclosure safety analyses base support, including prioritizing the postclosure work with an emphasis on identifying scope of work that balances project management risks in the LA with other technical issues related to regulatory risks. This also includes supervision of Sandia staff; administrative support to safety analyses planning activities; establishment of controls that meet administrative, technical, and quality requirements; and identification and control of interfaces with other participants, as needed. This includes integrating and monitoring scientific and technical performance associated with safety analyses and work activities carried out at National Laboratories, contractors, and universities as appropriate. This includes providing technical and strategic input to safety analyses, as required. This includes coordination to update the features, events, and processes (FEP) identification; classification; and screening, as necessary, to address comments from DOE, NRC, NWTRB and other Agencies. The primary purpose of the revisions is to improve the transparency and traceability of scientific and technical aspects of the FEP screening decisions and their implementation in the TSPA, and to improve the defensibility of screening arguments for the LA. Work scope for Sandia includes interface with the other Project organizations and functions to ensure the safety analyses adequately address the technical content requirements of the safety analyses portions of the LA and subsequent LA updates. It includes input provisions to the LA Chapters' text associated with postclosure safety analysis in general, and integrating technical products supporting the post-closure safety analyses in order to enhance transparency and traceability for regulatory purposes. It includes the procurement of services, equipment, materials, and supplies uniquely associated with the safety analyses effort.

Sandia will perform tasks associated with the development and implementation of project control tools, systems, procedures, and guidance needed to support the performance assessment/confirmation team in the execution of its work. This also includes management and integration of work scope conducted by other National Laboratories, contractors, and universities supporting the postclosure safety models and analyses.

TOTAL SYSTEM PERFORMANCE ASSESSMENT

Sandia will maintain, document, update, and validate the TSPA model. Sandia will conduct the technical analyses using the model and document the scientific results and conclusions. Sandia will support the development of the TSPA subproducts. This includes enhancement and update of the current and next-generation TSPA models, the validation and documentation of the models, the analyses that will be completed using those models, the documentation presenting the results and conclusions in support of an update of the LA for receipt and possession of spent nuclear fuel (SNF) and HLW, and supporting the associated TSPA subproducts.

TSPA sensitivity analysis results will support the development of the Performance Confirmation Plan. Sandia will provide technical expertise to support writing, updating, and developing related portions of the LA, general information, and SAR, and their subsequent updates, as needed. Sandia will support the performance confirmation program by developing the performance confirmation testing strategy, providing specific modeling activities to support performance confirmation test plans, and using the TSPA to inform decisions on specific testing.

SUBSYSTEM MODELS

Sandia will develop, update, and support the subsystem models contributing to the following technical models that will be used in analyses of nominal and disruptive performance, as appropriate: Unsaturated Zone Flow and Transport Models; Saturated Zone Flow and Transport Model; Engineered Barrier System Performance, including Waste Package and Drip Shield Performance, and integration of coupled processes in the drift and near-field environment; and Biosphere. Work will include the investigations of natural analogs and other lines of scientific and technical evidence that support NRC acceptance of the validity of the models. Sandia will develop associated technical reports (e.g., Analysis Model Reports (AMRs)) and work necessary to support development and update of the SAR during the period prior to the issuance of a license (both construction authorization and receive and possess). Sandia will support technical meetings and resolve scientific and technical issues with NRC, ACNW, and the NWTRB. The models describe implementation of the relevant FEP that collectively support each model.

The work will result in integrated models of the thermally driven, coupled processes that affect the thermal-hydrological-chemical-mechanical environment in the host rock, especially around the drifts, and summarize the interrelations of the various submodels, as well as the connections between process models. The various technical reports (e.g., AMRs) will support the development of the applicable LA chapters and support the performance confirmation efforts for both the development of the active performance confirmation testing strategy and the specific modeling needs associated with it. Sandia will test and validate models in accordance with the requirements defined in the Quality Assurance Requirements Document (QARD).

Sandia will develop, update, and support models for predicting the long-term degradation behavior of the waste package and drip shields as identified in the design for the LA. These

include the reference materials identified for the waste package outer barrier, inner shell, SNF and HLW baskets, emplacement pallets, and drip shields.

Sandia will establish, document, and update, as appropriate, the baseline properties and characteristics for the candidate materials for each component of the waste package, drip shield, and emplacement pallet.

Sandia will perform tests, analyses, and modeling to predict the relevant range of local environments the engineered barriers will experience in the emplacement drifts, as well tests, analyses, and modeling to predict the long-term behavior of Alloy 22 and Titanium Grade 7 in those environments.

Sandia may be required to include other appropriate candidate materials and other component reference materials in the testing program to the extent needed to achieve the Waste Package Degradation Work Breakdown Structure Element objectives and satisfy the information needs identified by other Pre-closure Safety and Postclosure Safety Work Breakdown Structure Elements.

DISRUPTIVE EVENTS

A disruptive event is defined as an unlikely event that could affect the performance of the repository. Events that have an occurrence probability equal to or greater than the regulatory threshold of one chance in 10,000 in 10,000 years, and are not excluded because of low consequence to dose, will be included in the TSPA analyses (see FEP element under safety analyses integration). Sandia will evaluate the probability and consequences of igneous and seismic activity in the Yucca Mountain region and the impact on the repository. Sandia will expand the technical basis for the LA, including additional support to satisfy the criteria of NRC's Yucca Mountain Review Plan and the related key technical issues agreements.

Sandia will address the post-closure effects of seismic activity through the development of probabilistic seismic hazard analyses and site-specific seismic design inputs to support analyses of damage to engineered components and rockfall hazard. Sandia will remain cognizant of and utilize, as appropriate, data and analysis developed from seismic related tasks under the cooperative agreement with the University and Community College System of Nevada. Sandia will support technical meetings and resolve scientific and technical issues with NRC, ACNW, and the NWTRB. Sandia will conduct any specific testing to support either the probability or consequences of volcanic or seismic events. Sandia will provide technical input for update of the SAR, as appropriate, to support the license to receive and possess. Sandia will support the performance confirmation efforts for both development of the active performance confirmation testing strategy and specific modeling needs associated with it.

NEUTRONICS

Sandia will develop and apply a disposal criticality analysis methodology. The methodology applies to the criticality related analyses needed to evaluate compliance with the applicable

NRC post-closure regulatory requirements, and will include analyses of potential criticality in both the engineered and natural systems.

Sandia will support DOE in interactions with NRC to resolve the items in the revised *Disposal Criticality Analysis Methodology Topical Report*. Sandia will support development and update of the SAR to support the license to receive and possess and other updates as required. Sandia will support technical meetings and resolve scientific and technical issues with NRC, ACNW, and the NWTRB.

POSTCLOSURE SAFETY TEST COORDINATION

Sandia will coordinate testing activities related to the above scope of work and conducted underground in the Exploratory Studies Facility, east-west cross drift, and surface-based activities. These services include the preparation of field work packages, location surveys, determination of importance evaluations, and administration of data acquisition activities.

Sandia will coordinate and support testing activities for the Atlas Facility and other Yucca Mountain Project offsite locations, as necessary, and manage the Sample Management Facility. Such activities include providing test coordination interface for activities conducted under DOE's cooperative agreements with Inyo County, Nye County, University and Community College System of Nevada, Atomic Energy of Canada Limited, State of Nevada, regulators, and/or oversight bodies (NWTRB, etc.).

PERFORMANCE CONFIRMATION SUPPORT

Performance confirmation is the set of activities, including monitoring, testing, and analyses, required to help provide data that indicate, where practicable, that the systems will behave as described in the LA following repository closure. This scope of work also includes scientific and technical support for the development of the LA, including support for writing, review, comment resolution, and revision, as needed. The main focus of this work will be Chapter 4 of the SAR.

Sandia will revise the performance confirmation plan to reflect regulatory changes, changes to the LA process, and an evolving LA design. Revisions will refine the performance confirmation program, in accordance with 10 CFR 63, subpart F, and affect lower tier documents and the System Description Documents necessary to execute a successful Program based on regulatory requirements and programmatic guidance, using a risk-informed, performance-based approach. Sandia will provide input for update of the SAR during the period prior to the issuance of a license to receive and possess. Sandia will support technical meetings and resolve scientific and technical issues with NRC, ACNW, and the NWTRB.

QUALITY ASSURANCE REQUIREMENTS

When performing work for the Office of Civilian Radioactive Waste Management (OCRWM), Sandia shall implement and comply with OCRWM's QARD and the current version of the Augmented Quality Assurance. Upon notification from OCRWM that a later

version of the QARD or the Augmented Quality Assurance Program has been adopted, Sandia shall either agree to implement and comply with the applicable requirements in that version or terminate work. Sandia is responsible for ensuring all entities (i.e., National Laboratories, subcontractors, universities and other entities) comply with all applicable QA requirements.

OCRWM shall have access to Sandia National Laboratories facilities for purposes of quality assurance oversight of OCRWM-funded activities. Sandia's subcontracts will provide for similar access by OCRWM as it relates to this Statement of Work. Subject to National Security requirements, observers from NRC and State and local governments may participate in these oversight activities consistent with any agreement between OCRWM and NRC or other entity or with any applicable regulation. Sandia shall respond to all deficiencies identified as related to this Statement of Work. Sandia will notify NNSA and OCRWM whenever it believes work by Sandia or any other entity for which Sandia is responsible for the management and integration under this arrangement has been or may be performed in a manner inconsistent with NRC quality assurance requirements or OCRWM's implementation of those requirements. Any determination by OCRWM or NRC as to what action is necessary to comply with those requirements will be transmitted to NNSA SSO for CO action as necessary.

The OCRWM COR for QA will promptly notify the SSO CO of any significant contractor performance deficiencies and upon notification, the SSO CO will immediately take the necessary action to require Sandia to remedy performance or if necessary, stop work and/or terminate work consistent with the direction of OCWRM and the terms and conditions of the prime contract (DE-AC04-94AL85000). The OCRWM may withhold future funding for the work described herein in the event a QA deficiency is not promptly remedied.

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